

American Bee Journal

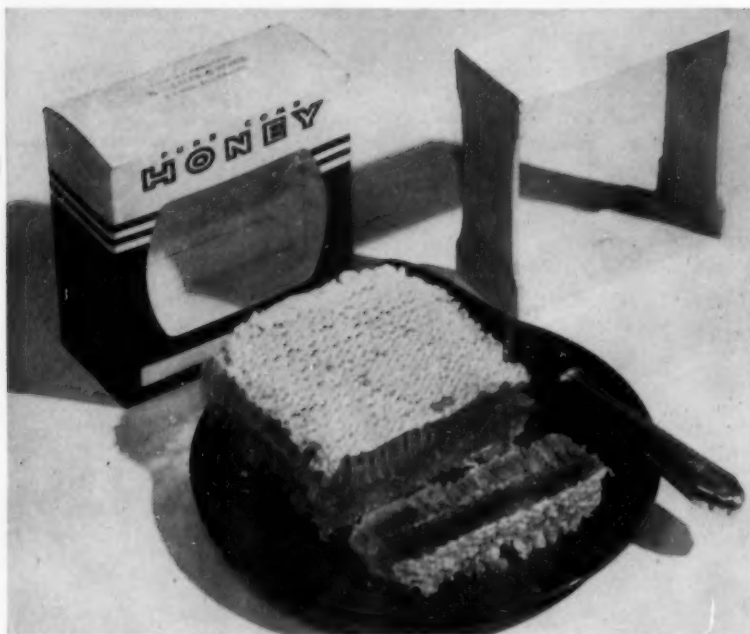


Vol. 95 No. 8

AUGUST

1955

Humm - - Appetizing, Isn't It?



AND IT CAME IN ROOT'S SECTIONS AND WINDOW CARTONS, TOO

These handsome yellow and green window cartons dress up all comb honey. The cartons are used by successful producers everywhere. Order a supply now.

Let these attractive Root Honey Labels help you tie-in your honey promotional plans with NATIONAL HONEY WEEK. Root's many styles and sizes of honey labels can help you market your honey crop. Write for our FREE Label Catalog and examine the 70 labels offered. Your name can be imprinted on these labels in lots of 250 or more.



Remember that October 24th through 30th is National Honey Week. Get a supply of honey posters and other promotional literature from The American Honey Institute, Commercial Bank Building, Madison 3, Wisconsin.

THE A. I. ROOT CO.

Factories at Medina, Ohio — Council Bluffs, Iowa — San Antonio, Texas

Distributors in Principal Cities

DEALERS EVERYWHERE



Caucasian and Carniolan



Both are the gentlest of all races of Bees, Hardy, Prolific, Rapid Build Up, Best of Workers. Gentleness saves time, patience and work. August is a very good time to requeen for the fall honeyflow.

— PRICES —

Carniolans \$1.90 each air mail
Caucasians \$1.00 each air mail

Discount on Quantity Orders.

W. D. REAMS

Morristown, Tenn., Route 5

**WESTERN
Beeswax Headquarters**
Certified Beeswax Salvage Plant
Custom Rendering
Bleaching and Refining
Foundation Manufacturing
both plain and wired.

Top Cash Market for
Your Beeswax

MILLER'S HONEY CO.

Colton, Calif. Phone 1722

Conneaut 60-Lb. Honey Cans

Larger Caps Heavier Handles

Preferred by Beekeepers

Ask Your Dealer
or Write

The Conneaut Can Co.

Conneaut, Ohio

HOLLOPETER'S

Hardy, Hustling, Honey Gathering Italians. Reared on top of the Allegheny Mts., and bred for hardiness, honey gathering qualities, with ease of handling.

Price of mated laying queens:
1-9, \$1.00 each; 10-24, 90c each;
25-49, 80c each; 50-100, 75c each.

WHITE PINE BEE FARMS

Box 500, Rockton, Pa.

BRITISH BEE JOURNAL
THE ONLY WEEKLY BEE
JOURNAL IN THE WORLD

Subscription \$4.50 per annum
payable in advance

Keep up to Date in Beekeeping
by taking out a subscription now
through our agents:

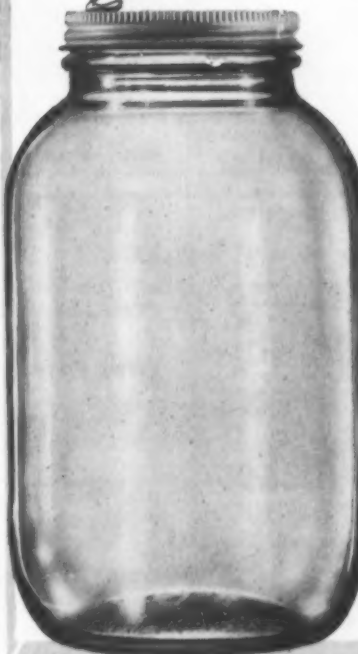
AMERICAN BEE JOURNAL



H-A puts the Bee in Business...

Your Honey's Good...

H-A Honey Jars
Will Sell It.



QUEENS



Reg. U.S.
Pat. Off.

STARLINE HYBRID QUEENS—Ahead of anything we have tried in Hybrids. Send for descriptive results of 3 years' Test of Dadant Starline Hybrid Queens.

GARON'S OWN 3-BANDED ITALIAN STOCK—Improved through Know-How in selecting Breeding Queen Mothers for combinableness necessary for highest Honey Production.

| Prices | | |
|--------|----------|-----------|
| | Italians | Starlines |
| 1-24 | 90c | \$1.30 |
| 25-99 | 80c | 1.20 |
| 100-up | 85c | 1.10 |

Queens clipped and marked when desired, and Air Mailed at no extra cost.

GARON BEE CO.

Donaldsonville, La.

HONEY WANTED

ALL GRADES, SEND SAMPLES,
ADVISE QUANTITY AND PRICE.

EVERYTHING FOR THE BEEKEEPER

HONEY SALES CO. 2817 No. 2nd St. MINNEAPOLIS 11, MINN.

It Is Not Too Late

to Order a New 'LIFETIME' EXTRACTOR

We Have 4-Frame and 8-Frame
Sizes.

A "SUPERIOR" Cappings Melter

will do a better job of melting cappings and
will keep them cleaned up, day by day.

'Superior' Cappings Dryers Cost Less than Other Makes

and will get extra honey for you.

WE HAVE A FULL STOCK OF
TIN AND GLASS CONTAINERS

SUPERIOR HONEY COMPANY

Manufacturers of Bee Supplies

P. O. Box 641, 15598 Road 29, 1080 E. Buchanan St.,
Idaho Falls, Idaho Madera, Calif. Phoenix, Arizona
249 Third Street, 5301 District Blvd., 4242 Elizabeth St.,
Ogden, Utah Los Angeles, Calif. Denver 16, Colorado

"The Best Is Always Superior"

THE AMERICAN BEE JOURNAL

HAMILTON, ILLINOIS

Vol. 95, No. 8

August, 1955

Editor — G. H. Cale

Associate Editors — M. G. Dadant, Roy A. Grout

Managing Editor — Adelaide Larson

Published monthly at Hamilton, Illinois. Entered as second-class matter at the Post Office, Hamilton, Illinois. In the United States, Canada and Mexico, \$2.00 a year; two years \$3.50; three years \$5.00. Foreign \$2.50 a year; two years \$4.50; three years \$6.50. Subscription stopped at expiration date printed on wrapper. Available on microfilm at moderate prices by writing to University Microfilms, Ann Arbor, Michigan.

CONTENTS

| | |
|--|-----|
| Comments | 304 |
| Abroad | 306 |
| Consumers Fix Prices—I. E. Parett | 308 |
| Honey French Toast—American Honey Institute .. | 309 |
| A Two-Queen System in One Hive Body—Edwin J. Anderson | 310 |
| Bees Increase Yields, Viability of Carrot Seed — U.S.D.A. | 312 |
| Community Defence Against Robber Bees—Ronald Ribbands | 313 |
| Judging Apiary Products—Dr. E. C. Martin | 314 |
| The Miracle of Honey Bee Pollination — Roy A. Grout | 315 |
| Traveling with the Lovells — Desert Beekeeping — Ethel and Harvey Lovell | 321 |
| Beekeeping in Peru—Part 2—Dr. E. J. Dyce | 322 |
| Honey and Your Diabetes—No. 5—Dr. D. C. Jarvis .. | 323 |
| Recipes | 324 |
| Meetings | 325 |
| Editorial | 330 |
| Crops and Markets—M. G. Dadant | 334 |

"Bee Wise-Woodmanise Your Bee Supplies"

A. G. Woodman Co. (Send for catalog—350 Listings) **Grand Rapids 4, Mich.**

THE NEW DON-LO LOADER FOR 1955

Save Your Back — Save Labor



Easy to Use
Easy to Install
Fits Any Truck
6- or 12-Volt

Our Users — Our Best Backers

Reasonably priced, \$525 to \$585,
standard models

Write for circular and further information.

RONLAKE'S MACHINE SHOP

P. O. Box 767

Redding, California

PACKAGE BEES and QUEENS

For Quality and Service
C. F. Koehnen & Sons
Glenn, Calif.

Thirty-second Assembly with
**DADANT'S Gilt-4-Edge
Foundation and LEWIS
Nailless Top Bar Frame**

Goodbye Bench Work!

There is no wedge to nail in the Lewis Nailless Top Bar Frame and only two nails to use in bored holes in the ends of the bottom bar. Then snap a sheet of Dadant's Gilt-4-Edge Foundation into the frame and you are done—in less than a minute—no wiring—no embedding. Sample sheet and frame, 25 cents.

The Lewis Nailless Top Bar Frame fits any foundation and Dadant's Gilt-3-Edge Foundation fits any frames with slotted bottom bar, with wedge in the top bar.

DADANT & SONS, Inc.
Hamilton, Illinois

Lewis-Dadant Branches — Colonie and Montgomery Sts., Albany 1, N. Y.; Stephenson Ave. at 14th St., Lynchburg, Va.; 92 Riverside St., Chillicothe, Ohio; 1010 W. Austin St., Paris, Tex.; Rt. 41, S., Hahira, Ga.

DEALERS EVERYWHERE

QUEENS — PACKAGE BEES FOR 1955

Maximum production is most easily assured with superior bees and queens. That's one way we try to help you make money. Superior bees and queens is our motto at all times.

THE VICTOR APIARIES
Uvalde, Texas

QUEENS

ITALIANS CAUCASIANS

We have had some very gratifying reports on our queens this year. They seem to be exceptionally good. Why don't you try some?

PRICES

Lots of 1-24 \$.75 25-9970 100-49965

Tested Queens \$1.50 each

Queens Postpaid Airmailed and/or Clipped no extra cost

THE STOVER APIARIES

Mayhew, Miss.

BOOST YOUR INCOME



Reg. U.S.
Pat. Off.

without adding more colonies or doing more work. By actual test Starline Queens produce more honey than any other stock tested. You owe it to yourself to give them a trial.

Untested queens \$1.30 each; 25 or more \$1.20 each.
100 up \$1.10 each.



J. M. CUTTS & SONS Box No. 336 Chipley, Florida

Are You Losing Beeswax?

We render old combs, cappings, and slumgum for beekeepers. If you are rendering your own or having this work done elsewhere, give us a chance to show you what we can do. We specialize on SLUMGUM from presses that are not operated under water. We often get from 10 to 40 per cent wax from such material.

Send for terms. Ship us your Beeswax. Prices are high.

DADANT & SONS, Inc.

Hamilton, Ill.

BETTER BRED QUEENS

Three Banded Italians

Everything is just right. NOW is the time to requeen. We have a large supply of our superior "Better Bred Stock." Our price is right. Let us supply your needs.

65c each, any quantity.

CALVERT APIARIES

Calvert, Alabama

QUEENS



KELLEY—"The Bee Man"

KELLEYS ISLAND stock queens grown on our own bee farm and rushed out daily from Clarkson by air mail. We now have thousands of extra queens, so try us on your rush orders.

1-24 75c each prepaid air mail

25 and up .. 65c each prepaid air mail

WALTER T. KELLEY CO.

Clarkson, Kentucky

Container Prices

GLASS JARS

| | Queenline | Plain |
|-------------------------|-----------|--------|
| 8-oz.—per case 24 | \$1.05 | \$.98 |
| 1-lb.—per case 24 | 1.35 | 1.05 |
| 2-lb.—per case 12 | .87 | .77 |
| 4-lb.—per case 6 | .75 | |
| 5-lb.—per case 6 | | .71 |

Square Jars for Chunk Honey

2 1/2-lb.—per case 12 \$1.18

TIN CANS and PAILS

60-lb. Can, 3" screw top—bulk 66c

60-lb. Cans, 3" screw top—per case 24 \$17.00

5-lb. Pails, no bails—per case 50 \$ 6.35

5-lb. Pails, with bails—per case 50 .. 7.15

10-lb. Pails, with bails—per case 50 .. 10.50

Cash Discount

5% on \$ 50.00 orders

10% on \$100.00 orders

August Lotz Co.

BOYD - - - WISCONSIN

AD INDEX

| | |
|------------------------------------|-----------------------------|
| Aeppler Co., C. W. | 332, 334 |
| American Bee Journal | 303, 307 |
| American Rabbit Journal | 330 |
| Anderson & Sons, O. K. | 303 |
| Australasian Beekeeper | 305 |
| Barger Apiaries | 330 |
| Bee World | 328 |
| Bessonnet Bee Co. | 305 |
| BLM Mfg. Co. | 328 |
| Blue Bonnet Apiaries | 328 |
| Bordelon Apiaries, E. J. | 330 |
| British Bee Journal | 299 |
| Burleson & Sons, T. W. | 307 |
| California Bee Breeders, Inc. | 333 |
| Calvert Apiaries | 301 |
| Canadian Bee Journal | 307 |
| Chrysler & Son, W. A. | 305 |
| Cohana Products | 303 |
| Conneaut Can Co. | 299 |
| Continental Can Co. | 331 |
| Country Bookstore | 303 |
| Cutts & Sons, J. M. | 301 |
| Dadant & Sons, Inc. | 301, 333, Inside back cover |
| Ellison & Sons, C. G. | 307 |
| Flowers Bee Co. | 333 |
| Forehand & Sons, W. J. | 303 |
| Garon Bee Co. | 299 |
| Harper, Carlus T. | 307 |
| Hazel-Atlas Glass Co. | 299 |
| Homan, Farris | 305 |
| Honey Sales Co. | 299 |
| Hutchison Mfg. Co. | 333 |
| Jackson Apiaries | 307 |
| Jensen's Apiaries | 307 |
| Johnson Co., Carl E. | 330 |
| Kelley Co., Walter T. | 302 |
| Koehnen & Sons, C. F. | 301 |
| Leahy Mfg. Co. | 304 |
| Lewis Co., G. B. | Back cover |
| Lotz Co., August | 302 |
| Marshfield Mfg. Co. | 306 |
| McCord Mfg. Co. | 330 |
| Miller's Honey Co. | 299 |
| Mitchell's Apiaries | 307 |
| Modern Beekeeping | 305 |
| Muth Co., F. W. | 328 |
| Neiman Bros. Co. | 303 |
| Nichols Apiaries | 305 |
| Plant, W. E. | 305 |
| Reams, W. D. | 299 |
| Ronlake Machine Shop | 301 |
| Root Co., A. I. | 332, Inside front cover |
| Rossman Apiaries | 306 |
| Rusch & Son Co., A. H. | 333 |
| Sioux Honey Assn. | 329 |
| Stoller Honey Farms | 328 |
| Stover Apiaries | 301 |
| Strachan, Don J. | 307 |
| Sunkist Bee Co. | 305 |
| Sunrise Apiaries | 330 |
| Superior Honey Co. | 300 |
| Taylor Apiaries | 328 |
| Taylor, Stewart | 304 |
| Tennessee Bee & Honey Co. | 330 |
| Victor Apiaries | 301 |
| Walker, Eugene | 333 |
| Weaver Apiaries | 307 |
| Weaver, Howard | 333 |
| West, M. C. | 305 |
| White Pine Bee Farms | 299 |
| Wicht Apiaries | 307 |
| Wilbanks Apiaries | 307 |
| Williams Apiaries, Dr. | 328 |
| Williams Bros. Mfg. Co. | 305 |
| Wing & Sons, J. E. | 330 |
| Winslett, D. T. | 305 |
| Woodman Co., A. G. | 301 |
| York Bee Co. | 303 |

THRIFTY QUEENS

THREE-BANDED ITALIANS
ONLY

Lots of 100 \$55.00

Smaller lots, each65

REMEMBER—Thrifty Bees are
guaranteed to please.

W. J. FOREHAND & SONS
Fort Deposit, Ala.
Breeders Since 1892.

— FREE CATALOG —

All The Best and Latest
Garden and Farm Books, Bulletins
A wealth of up-to-the-minute expert
advice on how to do wonders on a little
land or a thousand acres . . . wonders
with flowers, vegetables, fruits, land-
scaping, poultry, livestock, woodlands,
fishponds, composting, soil improve-
ment, etc. Just send name and address
for this fascinating FREE catalog by
return mail.

Country Bookstore, Box 5452,
Moroton, Conn. (Est. 1943)

HONEY WANTED

Carloads or less than car-
loads. Quote best cash price
delivered to us. All grades;
send samples.

Neiman Brothers
Co., Inc.

2721 West Roosevelt Road
Chicago 8, Illinois

Queens through October

65c each—air mail

John M. Davis Strain —
preferred by the most
successful producers.

O. K. Anderson & Son
Box 193 Coffee Springs, Ala.
Phone No. 466R5

20 cents for 8 - 9 oz.

of your honey in our plastic
containers. Write for details.

COBANA PROD. CO.

P.O. Box 214 Dearborn 1, Mich.

Renew Your Subscription

York's Quality Bred Queens

Your choice of two outstanding strains —

Dadant's Improved Starlines or
York's Quality Bred Italians

| Italians | | Starlines | |
|--------------|--------|--------------|--------|
| 1-24 | \$1.00 | 1-24 | \$1.30 |
| 25-99 | .90 | 25-99 | 1.20 |
| 100 up | .80 | 100 up | 1.10 |

The Preference of Leading Honey Producers

YORK BEE COMPANY

Jesup, Georgia

(The Universal Apiaries)

Jarvis Articles on Honey and Health

The series of articles by Dr. Jarvis on honey as an influence on bodily health
has been so popular and request for reprints so insistent that we have combined
most of these articles in a series. These reprints are available as follows:

- NO. 1 Use of Honey to Relieve Migraine
Use of Honey to Produce Sleep
- NO. 2 New Use of Honey for Children
Use of Honey in Feeding the Growing Child
- NO. 3 How to Age Slowly With the Aid of Honey
Honey, the Ideal Food Supplement
- NO. 4 Use of Honey in Prevention of Polio
- NO. 5 Use of Honey in Maintaining the Efficiency of the
Business Executive
- NO. 6 Use of Honey During Pregnancy
Honey, a Medicinal Sweet
- NO. 7 Use of Honey in Infant Feeding
Use of Honey when the Child Is Cutting Teeth
- NO. 8 The Use of Honey in Allergy
- NO. 9 Use of Cappings and Honey in Sinusitis
- NO. 10 Important Medicinal Uses of Honey

PRICES — POSTPAID

Single Copy 5c; 10 — 25c; 100 — \$1.50; 500 — \$6.00; 1,000 — \$10.00

JARVIS "HEART" REPRINTS

We have reprinted in 4-page form, the series of articles on "Honey Is Kind to
Your Heart", available at the following prices, Postpaid:

| | | | | | | | |
|------------|---------|---|------------|---------|---|-----------|--------|
| Each | 10c | — | 10 | 60c | — | 100 | \$4.00 |
| 500 | \$15.00 | — | 1000 | \$25.00 | | | |

Be sure to stipulate the reprint you want and send all orders direct to

AMERICAN BEE JOURNAL Hamilton, Illinois

Use ABJ Ads — They Pay

Glassware

Pack your crop in Glass for More Sales. We have 1/2-lb., 1-lb., 2-lb. size Modernistic Jars, 5-lb. Round, 5-lb. and 2 1/2-lb. size Square Jars.

Write for Our Prices.

Leahy Manufacturing Co.

Box 3269

Higginsville, Mo.

A PUFF'S ENOUGH!



"The Push-Button Bee Smoker"

\$1.29 At Your Dealers'
(Plus 2 Lbs. for Shipping)

— and rarin' to go!

- **Highly Concentrated**
- **And Economical**
- **Gives Good Control**

* Trademark, Stewart Taylor, Camargo, Illinois

BEE CALM with Taylor's HIVE BOMB

Comments

INDIANA—Beekeepers who are fruit growers agree that, in pollinating a fruit tree, the bees cause the tree to produce a bigger and better crop of fruit. I have the proof in my back yard. I have only one apple tree there, on a sixty-acre farm, and it has been loaded with apples since I moved my bees here in 1946. Folks that lived here said they had never seen more than a dozen apples on the tree previously. Right now the tree is loaded with nice apples. Last year we had to put props under the limbs to keep them from breaking. I must say, after 46 years with the bees, that they do increase production and the fruit will be larger and finer. One two-story colony for every four trees in an orchard, close to the fruit, will do a fine job.—Acy D. Zarnes, Westport.

IOWA—A news item reports the death of Walter C. Crenshaw in Louisville from bee stings. He was a beekeeper most of his life. I do not understand how an experienced beekeeper could get into trouble like this. My father always kept a few colonies and, if I got stung, it was always my fault. It wasn't until I had bees of my own that I found they would sometimes sting quickly. The first few years I worked without gloves; then decided it was better to have protection than to have bees throw away their lives on me. Was this man working without protection? Or was his physical condition the reason for it? How many times was he stung? Maybe you can find out.—J. M. Cinads, Davenport.

MINNESOTA—A few weeks ago I had to walk into a yard to feed the bees and I noticed an animal at one of the hives, walking slowly away and stopping at each hive for a while. When I drew near I saw a huge turtle about the size of a large dishpan. He would not move and offered battle. His foot-long tail had fins on it like the tail fin of a fish. He even opened his mouth to receive me. I have never heard of a turtle eating bees as this fellow was doing. I had noticed before, in this yard, that there was a spot about the size of a saucer in front of each hive where the grass was dead. He had evidently defecated there and killed the grass. This yard was near the Canadian border and near the Roseau River where it enters Canada.—P. N. Tri, Humboldt.

FLORIDA—My wife and I have read the various views on diabetes, a disease seriously affecting many people. Each one of these articles by Dr. Jarvis is far more valuable than the cost of a subscription. We hope there will be more of them. After the series is ended it would be a wonderful help if you would make up a booklet embracing all of them to offer to the public. It would be an outstanding service.—C. Richard Hartman, Dade City.

MINNESOTA—Thanks for the article last month on Soil Conservation and Beekeeping. The possibilities presented struck me as being a good subject for a fall meeting of some of us hobby beekeepers in Minnesota. I talked with Loyd Larson, U. S. Soil Conservation representative, about addressing a meeting and he has consented to do so. Please send him a copy of the Journal with that article.—Neil G. Barry, Minneapolis.

**Mountain Bred
Italian BEES and QUEENS**

Write for Prices.

Nichols Apiaries

Rt. 1, Box 387, Ashland, Ore.

**Chrysler's Electric Welded
All-Steel Queen Excluder**



The only
worthwhile
Queen
Excluder
on the market

- Accurate spacing
- Allows maximum bee passage
- Better ventilation
- More honey production
- No wood. No Burr combs
- No sharp edges to injure bees
- So durably made that it is permanently queen excluding and will last a life time.

We manufacture a full line of Bee Supplies. Order from our dealers or direct from our factory. Canadian-made goods are cheaper. No duty. Send for our price list. Always in the market for Beeswax. Cash or trade.

W. A. CHRYSLER & SON
Chatham - Ontario - Canada

3-BANDED ITALIAN

Queens \$1.00

W. E. PLANT

Rt. No. 2 Hattiesburg, Miss.

THE AUSTRALASIAN BEEKEEPER
The senior beekeeping journal of the Southern Hemisphere provides a complete cover of all beekeeping topics in one of the world's largest honey producing countries. Published monthly by Fender Bros. Pty. Ltd., Box 30, P.O., Maitland, N.S.W., Australia. Subscription by Bank Draft or International M.O. is (approx. \$2.15) per year, post free. Sample copy free on request.

Select Italians

QUEENS

Package Bees

M. C. WEST

Route 1, Box 278-A
Winters, California

Modern Beekeeping

If you are taking time to read, why not read the best?

Condensed to save you time.

Illustrated to give you pleasure.

1 yr. \$1.50; 2 yrs. \$2.50; 3 yrs. \$3.25

MODERN BEEKEEPING

The Picture Bee Magazine

Clarkson, Kentucky

Caucasian Queens

90c each for the rest of season.

D. T. WINSLETT

7736 Auburn Rd.
Citrus Hgts., Calif.

BEE WISE . . . STARLINE-IZE



Reg. U.S.
Pat. Off.

If you need queens why not get the best. Look what you get when you use Starline queens: Scientific background; years of checking; a planned breeding program; dependability. All these along with the high production records. The added cost is cheap.

Starline Queen prices after June 1:

1-24, \$1.30; 25-99, \$1.20; 100-up, \$1.10

Sorry—No more Italians after June 1.

SUNKIST BEE CO.

Convent, La.

BEE SUPPLIES

Since 1886

**Brood Frames with Eyelets
One-Piece Covers and Bottoms**

Send for 1955 Catalogue

WILLIAMS BROS. MFG. CO.

5205 - S.E. 82nd AVE.

PORTLAND 66, ORE.

Queens . . "GULF BREEZE" . . Italians

Do you want a good strain of bees for comb and chunk honey production as well as producing good extracted crops? Then do like the champions do and use "GULF BREEZE" stock.

1-24 . . . 90c each 25-99 . . . 80c each 100 up . . . 75c each

BESSONET BEE COMPANY

DONALDSONVILLE, LA.

The Future
of America

FREE! Send for this booklet, "THE FUTURE OF AMERICA." Never before has America had such tremendous potentials. Read the story of the huge developments now taking place, almost invisibly. Every American should know these facts. For FREE, 24-page illustrated booklet, drop a postcard to: The Advertising Council, "Future of America," 25 W. 45th St., New York, N. Y.

Caucasian or Italian Package Bees and Queens

Bees gentle to work with, less swarming, good producers, health certificate, live arrival guaranteed are just a few things you get when your requirements are sent to me. Prices are:

| Quantity | 1-25 | 26-50 | 50-100 |
|----------------|--------|--------|--------|
| 2-lb. pkg. w/q | \$3.00 | \$2.90 | \$2.85 |
| 3-lb. pkg. w/q | 3.90 | 3.80 | 3.75 |
| 4-lb. pkg. w/q | 4.85 | 4.75 | 4.65 |
| 5-lb. pkg. w/q | 5.80 | 5.70 | 5.60 |
| Queens | 1.00 | .90 | .80 |

FARRIS HOMAN

Shannon, Miss.

Use ABJ Labels — They Get Results

Requeen

This
FALL
with
Island Hybrids
or
Regular Italians

from

ROSSMAN APIARIES

P. O. Box 133

Moultrie, Ga.

"They Produce"

Place your order early so that we may
plan delivery without delay.

We Are Looking for

A

Good Season for
Section Honey Producers

Consult our catalog for prices on
Honey Sections and the best equip-
ment for producing COMB HONEY.
A complete line of supplies sold di-
rect to the beekeeper. Quantity dis-
counts on sections.

MARSHFIELD MFG. CO.

MARSHFIELD, WISCONSIN

Abroad

England

Butler on Queen Introduction . . .

Our readers will remember our reporting Rothamsted Station's C. G. Butler's announcement of the discovery of "queen substance" covering the body of the queen and its effect on the bees in recognizing both queen and bees of the colony as well as the substance being transmitted from one bee to the other within the colony; similar to the familiar "colony odor." (See July issue.)

In a recent lecture to the Central Association of Beekeepers on queen introduction, he emphasizes the role the queen substance and its transmission to the bees of the colony, might have on queen introduction.

He recommends introducing the new queen within a few minutes after the removal of the old one, and alone, using preferably a cage in which the wire gauze is small enough to exclude the outside bees but large enough to allow the bees to both feed and lick the queen. There should be plenty of food in the cage for the queen. Place the cage nearest the spot where the bees are producing brood food, leave the colony undisturbed for four days, and the exit from the cage filled with a candy that the bees may remove themselves. He reports a minimum of trouble in introduction following these recommendations.

Glacial Acetic Acid for Comb Sterilization against Nosema . . .

Bailey & Milne of the Rothamsted Station recommend the sterilization of empty combs with glacial acetic acid to prevent contact re-infection through such combs to newly placed swarms or packages. The acid is distributed on cloths on top of the stack of combs and cover over all. One beekeeper, in a later issue of the same magazine reports complete success whereas before he had recurring infections from these same combs. The odor of the acid is quite pungent and care has to be taken in placing the cloths.

Tanganyika

Beeswax at Its Source . . .

An interesting 16-page bulletin (No. 1) is devoted to the production and use of beeswax in Tanganyika, British Province in East Africa from which last year more than 250 tons of beeswax was exported, a much smaller crop, however, than in the preceding year, probably due to dry weather in 1953, as Mr. Francis G. Smith, beeswax officer, and editor of the bulletin infers from his past records.

There are some 2 million colonies in the territory, practically all in bark, log, or woven cane hives, of from 1½ to 3 cubic feet capacity. The natives mostly live in the settlements owing to prevalence of the tse-tse fly in the forest, and go to their bees only during the active season.

The honey is gathered and beeswax rendered by the native population, and collected for export at the seaports. Most of the exports go to Britain.

**Choice
Honey Bees and Queens**



Reg. U.S.
Pat. Off.

**DADANT'S STAR-
LINE HYBRIDS and
Wicht's Three-Band-
Italians.**

WICHT APIARIES

406 Miller St. Hattiesburg, Miss.

"Quality, Service and Satisfaction"

HONEY WANTED

Cut Comb and Extracted
Advise what you have

T. W. BURLESON & SON

WAXAHACHIE, TEXAS

PALMETTO QUALITY QUEENS

Try our Quality Queens that have given Beekeepers such satisfying results for the last 20 years. Prices as follows: 1 to 10 at 75c each; 11 to 100 at 65c each. These prices good for balance of season.

We guarantee good service and no disease.

C. G. ELLISON & SONS
Phone 5141 Belton, S. C.

CANADIAN BEE JOURNAL

Canadian beekeepers have much in common with their neighbors in the U.S. If you are interested in bee activities "North of the Border," send us your subscription NOW. Subscription price, \$1.75 per year in U.S.A.

Canadian Bee Journal

Streetsville, Ontario, Canada

HARPER'S FAMOUS

High Quality Italian
Queens and Package Bees

1 to 9, 75c ea.; 10 and up, 65c ea.
by Air Mail

CARLUS T. HARPER

New Brockton, Ala.

CAUCASIANS

Quality Caucasian Queens
1-11 at \$1.25 each; 12-49 at \$1.15 each;
50 up at \$1.00 each

DON J. STRACHAN

Route 2, Box 23 Yuba City, Calif.
Successor to Thos. B. Davis

QUEENS

Italians Caucasians

No Delay in Filling Orders.
Nice large queens, each 60c
Send us your order for 1 or 1000

Mitchell's Apiaries

Box 391 Bunkie, La.

**Three-Banded Italian
Package Bees & Queens**

Jackson Apiaries

Funston, Ga.

REQUEEN

REQUEEN

REQUEEN



Jensen says —

The worth of queens is not easily discernible while in mailing cages. Performance in the hives may reveal some surprises. Don't gamble on the most important single item in all "beedom", the QUALITY of your QUEENS.

Follow the example of leaders in the honey producing industry who bank on Jensen's Queens consistently.

Prices for remainder of season:

| | "Magnolia State" Italians | "Dadant Starline" 4-way Hybrids |
|--------|------------------------------|------------------------------------|
| 1-94 | \$1.10 | \$1.35 |
| 95-99 | 1.00 | 1.25 |
| 100-up | .90 | 1.15 |

Postpaid — Air Mail where expedient — Clipped and Marked Free.

JENSEN'S APIARIES

Macon, Miss., U.S.A.

"The Business Quality Built."



Reg. U.S.
Pat. Off.

A New Kind of Natural History Book

Readable and Beautifully Illustrated for Readers in General and of Practical Value to the Beekeeper, Farmer, Fruitgrower, and Accurately Detailed for the Scientist



**The Behavior and Social Life
of Honeybees**

By Ronald Ribbands

Principal Scientific Officer

Bee Department, Rothamsted Experimental Station

352 pages, 8 1/2" x 5 1/2", with 9 plates of fine photographs and 66 other illustrations. Price, \$4.50 postpaid.

Distributors American Bee Journal, Hamilton, Ill.

For Honey Cans,

Jars, Bee Supplies and Queens

— Write —

WEAVER APIARIES

Navasota, Texas



AN ADEQUATE SUPPLY OF

Dadant's Crimp-Wired Foundation

will assure you fine combs. You are protected too when you know it is made of pure beeswax.

DADANT & SONS, Inc., Hamilton, Illinois

QUEENS — ITALIANS — QUEENS

We offer you young laying queens, shipped prepaid Air Mail. Clipped and painted on request.

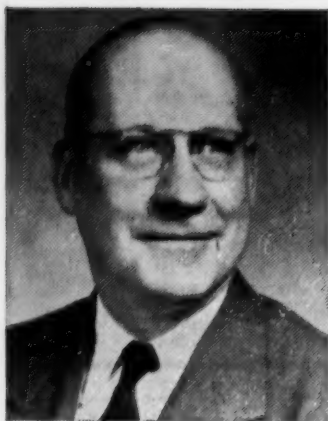
75c each any number

Tested Queens \$1.50 each

QUALITY DOES NOT COST — IT PAYS

THE WILBANKS APIARIES

Claxton, Georgia



Consumers Fix Prices

by I. E. Parett

Illinois Agricultural Association

IN THE beginning of our nation's history, nine out of ten people lived on farms and now the number is fewer than one in six. The total cost of processing and distributing food after it leaves the farm exceeds the amount the farmer gets for it. The farmer is now getting about 44c of the consumer's food dollar.

Selling Farm Products

There are three types of selling: farmers doing direct selling, selling through middlemen, and selling to processors like canning companies, packing firms, etc. Direct selling is greatest when prices are low; the roadside market is a good illustration. Selling through middlemen involves dealing with hucksters, retail stores, wholesalers, commission firms and restaurants. The tendency at present is to decentralize large terminal markets which handle food products.

The food marketing system consists of transportation, processing, storage, brokerage operations, wholesaling, and retailing. Linked into this system is a demand for credit which is voluminous in size.

In 1953, the bill for marketing farm goods amounted to 50 billion dollars. This represented about one-fourth of the consumer expenditures for all goods and services. Of the 50 billion, 30 was charged for marketing food and the remainder for alcoholic beverages and non-food products made from tobacco, cotton, wool, and leather.

Wages and salaries paid by marketing agencies take 45 to 50% of the total food marketing bill. Transportation requires 10%, packages and containers 5%. Other marketing costs must be paid. What re-

mains represents profits to the marketing agencies. USDA estimated that profits of all food marketing agencies in 1939 amounted to 8% of the total charges made for marketing food products and about 5% of the consumer's food dollar.

The Retail Food Store

Methods of retailing have changed greatly since 1900 and are still changing. Chain stores have increased rapidly, supermarkets and self-service stores have adapted food retail to modern living. The retail food store is the end of the marketing channel. In a typical group of supermarkets, 62% of the dollar sales were groceries and miscellaneous items, 26% meat, and 12% produce. It was estimated in 1952 that 91% of the chain store outlets and 73% of the independent retailers sold groceries completely self-service that year. With the help of self-service selling, average sales per employee increased from 2 to \$3,000 per year in 1920 to more than \$30,000 per year in 1953.

The retailer's job has changed because standardization is removing differences between qualities and prices. Preselling by manufacturers and wholesalers requires less personal selling by retailers but increases display and promotional selling. Instead of price incentives to patrons, the modern trend is to furnish better parking, improved service and attractive surroundings.

The many articles on display in today's supermarkets tend to tire us so we may confine our attention to those on our shopping list. If we buy an item, in most cases someone has performed a preselling service. Possibly we buy it because it looks attractive.

Honey Selling

An executive of the Chain Store Council states that the honey industry needs an expanded promotion program financed by a national organization through a producer check-off on honey sales. Research is badly needed. Liquid honey and honey spread seem to be most preferred by customers, with comb honey not so much in demand. Honey, in this executive's opinion, should be brought into joint advertising with other foods.

How does honey shape up with other food items? In a survey made of forty employees of the Illinois Agricultural Association these statements were gleaned:

1. Only two of forty families treated honey as an essential food item.
2. The other 38 eat honey occasionally, but in 19 homes not all members of the family use it. Twenty-four reported they bought a jar but then forgot to restock it even though they liked it.
3. Most of the forty reported honey competitive with jams, jellies, preserves, sirup and butter.
4. Honey was enjoyed most on hot rolls, biscuits, bread, waffles, pancakes and French toast.
5. Liquid forms of honey and the glass jar with the finger slide as a dispenser are preferred. Only six use homogenized honey spread; two-fifths of these people didn't know there was such a product. Seven stated that they buy comb honey by choice.
6. All persons said the price of honey is not high in comparison with other foods. It was not considered a luxury, but not accepted as an essential.

7. The general opinion was: More should be said about the merits of honey through advertising; research should be geared to recipes with low caloric content; the merit of honey as an attractive table decoration should be exploited; contests involving baked goods made with honey should be promoted.

8. Honey has the good will of all those interviewed but is in a precarious position.

I note that the U.S.D.A.'s semi-monthly honey report of October 15, 1954 forecasts a U.S. honey crop of 213,658,000 pounds. This estimate was based on average production of 39.2 pounds per colony which compares to 42.8 pounds as a five-year average. Producers were reported to have 81 million pounds of honey on hand, or about 38% of the total production for 1954. With the population in excess of 160 million people, we could eat the entire annual production by consuming less than one and a half pounds per person. This report shows that beekeeper sales in California range from nine to twelve and one-half cents a pound depending on quality and color. North central and east central states reported sales from ten and one-half to fourteen cents per pound.

It appears that the producers are getting about thirty cents of the consumer's honey dollar.

At home I have an occasional opportunity to look in on television programs. At present, this seems to be the most effective method of pre-selling products of factory and farm. On an Indianapolis station I recently happened to see a bread advertisement in which honey was mentioned as an ingredient. I can't remember seeing another similar sales effort involving honey. In scanning food store advertisements in last Friday's Chicago newspapers, I noticed only one store advertising liquid honey. They quoted 19c for an 8 ounce jar and 31c for a full pound. Honey was mentioned and pictured in a small lower right hand corner section of this full-page advertisement. All these observations cause me to wonder how effective a sales campaign can be when it is not linked with freedom to regulate consumer prices.

Earlier in this paper, mention was made of a 16% increase in dairy products sales in June over June of 1953. We must be realistic and recognize that butter supports were dropped from 90 to 75% of parity starting on April 1st. The lowering of butter price by eight or ten cents

a pound surely contributed to unit sales increase on all dairy products. Consumers had a new price incentive appeal. To make clear my views I am saying that commodity sales promotion is meaningful primarily when the promoter is free to adjust price of the article. "Drink More Milk for Health" on a billboard advertisement has little sales merit even though it may be linked with a school child, a famous athlete or a movie queen. Trade or brand names on the product such as, Borden's Milk, Producers' Milk, Dell's Milk, etc., become more significant in an effective promotional campaign.

Honey producers must attain greater knowledge of their product, its requirements and handling, packaging, and selling. The University of Illinois recently secured some Federal money which enabled them to set up an office in Chicago to deal with handlers, wholesalers, processors, and consumers of farm products. We should be encouraged with this venture because it will permit us to follow our farm produce into the hands of the consumer. We should be able to spread education to those who have great responsibility in the areas of quality and service.

Honey French Toast

- 2 eggs
- 1 pint milk
- $\frac{1}{4}$ cup honey
- $\frac{1}{2}$ teaspoon salt
- sprinkling of mace or nutmeg
- 6 or 8 slices of bread,
(several days old)

Beat eggs until light. Warm the milk slightly and blend well with the honey. Add the salt, mace, and beaten eggs and stir well. Cut bread about one-half inch thick. Dip each slice into the milk and egg mixture and place on a hot well-greased griddle. Brown well on both sides. Serve with honey.



From
American Honey Institute
Madison 3, Wisconsin



A Two-Queen System in One Hive Body*

by Edwin J. Anderson

Pennsylvania State University

THE two-queen system described in the following pages has been developed as a result of observations on colony morale that began with a study of queen mating nuclei in 1944. Since that year, many sizes and shapes of experimental queen mating hives have been built and watched to learn the effect each had on the morale of the little colonies within. The results varied greatly, but one style and shape of hive maintained such a high colony morale that an effort was made in 1954 to transfer the principles involved to full-size hives. Since time has permitted only one year of observation with the full-size hives, this article is not presented as a finished piece of work but as a progress report. The results obtained, during this one season were, however, quite promising and for this reason a report is being presented so that others interested in studying the life of the colony may try this system.

The different sizes and shapes of queen mating hives used in the succeeding steps were built in an effort to learn the size of the smallest hive that would encourage the colony to maintain a high colony morale under adverse conditions. The adverse conditions encountered were: absence of a queen, a shortage of food, robbing, and weakness due to a small number of worker bees.

Some of the different sized hives (at least ten of each size) used were:

- 1—A hive made to hold one 4X5 section.

- 2—A hive made to hold 3 and one to hold 5 frames, $7\frac{1}{2}$ inches long by 7 inches high.
- 3—Shallow supers divided into three compartments.
- 4—M.D. supers divided into three compartments.
- 5—Standard 8 and 10 frame hive bodies divided into three compartments.
- 6—A thirteen-frame hive body divided into 5 compartments.
- 7—A large hive with eight compartments, each holding four frames, $7\frac{1}{2}$ by 7 inches.
- 8—A special jumbo-depth hive divided into six compartments each filled with five frames one-half standard length and Jumbo depth.
- 9—Modified Dadant hive bodies divided into six compartments with 3 frames in each compartment.

This study of sizes of hives indicated that in general as the size of the hive increased, the morale of the colony improved. The nuclei in the smallest size hives lost their morale easily and had a tendency to swarm if not fed every day or two. The next size required feed and attention about once a week. The Modified Dadant depth hive body divided into six compartments with its frames of a shape that resembled the hollow of a bee tree, gave the best results in maintaining a high colony morale. These hive bodies were divided across the middle then each half was divided into three sections. The half-length frames in each section were $7\frac{1}{2}$ inches long by 10 inches high. Another advantage was that each small compartment was benefited by the

heat given off by the other compartments next to it. The morale of nuclei in these deep compartments was nearly perfect. They seldom swarmed for any reason and prevented robbing even when weak or queenless. The writer also found it possible to winter a large per cent of the nuclei in these hives which meant a large saving of bees and time each spring when nuclei are being made up to receive the first batch of queen cells.

It seemed to the writer that this unusually strong colony morale was not only very valuable to the nuclei but would be equally valuable if it could be developed and maintained in regular honey producing colonies of bees where it should result in a large increase in honey production. It also looked as though a colony of this strength with a limited size brood chamber would be in a position to control A.F.B. more efficiently when drugs were used for the control of the disease, since the limited size of brood chamber would cause the bees to use all the combs for brood rearing and no infected honey would be left in the brood chamber.

The next step was to modify three jumbo-depth hive bodies, an eight, a ten and an eleven-frame size, by dividing each hive into halves. The hives were divided crosswise and each side was filled with 10 half-length frames 10 inches deep. A half-length inner cover and a similar queen excluder were made for each half so that each became a complete unit in itself and the bees could not pass from one side to the other.

When the hives were completed,

* Authorized for publication on 3/29/55 as Paper No. 1958 in the Journal Series of the Pennsylvania Agricultural Experiment Station.

colonies of bees were taken from the queen-mating hives and placed in each division with enough extra bees to make a small colony. The colonies were fed until all the combs except one were drawn and filled with either brood or honey. The inner covers were then replaced with the two half-length queen excluders. A standard shallow super was added above the two queen excluders and the bees from both colonies entered this super and worked together as one colony. When the super was half full of honey, section supers were added under the shallow super as needed. The two queen excluders were kept on the hive bodies below the section supers to prevent the queens from getting together. The excluder did not appear to slow down work in the supers.

Two of these double colonies built up rapidly to great strength. The two were in the eight and eleven-frame hives. The ten-frame units suffered from spray poison and were marked off for the year as a loss in so far as production records were concerned.

The eleven-frame hive with its two colonies produced three section supers of comb honey or 92 completed sections and 80 pounds of extracted honey or a total of 172 pounds. The eight-frame units produced 4 section supers or 88 completed sections and 50 pounds of extracted honey or a total of 138 pounds. The average production for the regular ten-frame hives in this apiary was 54 pounds per hive. Because of a very light fall honeyflow, the special colonies, as well as others, required additional food for winter. About 20 pounds of sugar in sirup and honey, was given to each of the four special colonies and six pounds to the others. After subtracting the amount fed each colony, there was left a surplus of 115 pounds per colony for the double colonies as compared to the average surplus of 48 pounds produced by the single-queen colonies in the same apiary.

The double colony hives made and used last year were divided by placing a board across the middle of the hive. This separator was extended to the bottom board but was

left $\frac{3}{4}$ of an inch below the top of the hive body. A piece of galvanized angle iron, $\frac{3}{8}$ inch by $1\frac{1}{4}$ inches, was nailed to the top of the board where it extended $\frac{1}{4}$ inch above the hive body and made an effective division between the two inner covers or the two queen excluders, figure 1. Each half or colony was provided with its own entrance in opposite ends of the hive.

A screen bottom was substituted for the regular bottom during the swarming season in order to provide an excess of ventilation and help retard swarming. The queen excluders were made from perforated zinc excluders that were cut in half and strengthened with a $5/16$ inch thick by $\frac{3}{4}$ inch wide strip of wood on one side and $\frac{3}{4}$ inch wide strips of 26 gauge galvanized iron on the other.

The great populations of worker bees developed by the two-queen colonies were indeed surprising. This unusual strength was maintained to the time the bees went into winter quarters. These colonies did consume

(Please turn to Page 312)

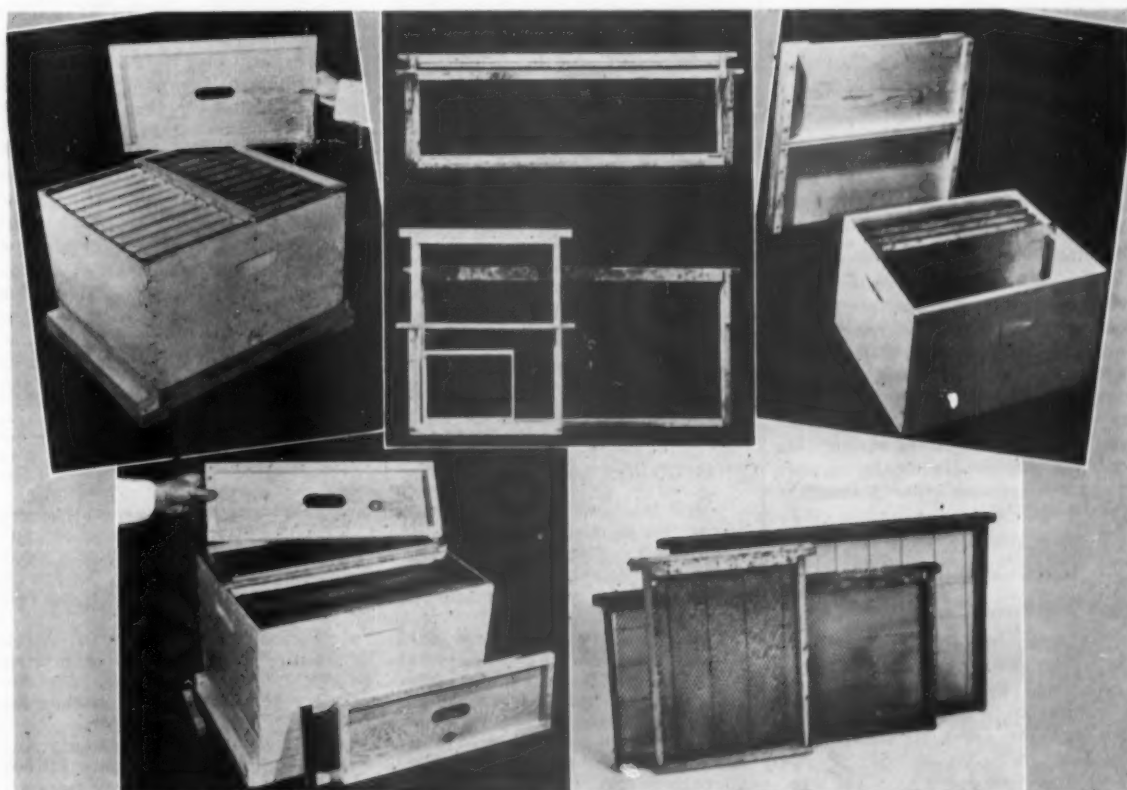


Figure 1 (upper left), the two-colony hive showing one of the inner covers and queen excluders. Figure 2 (top center), the different sizes of frames used in experimental queen mating hives. The tall one, about one-half standard length, proved most satisfactory. Figure 3 (top right), a ten-frame hive divided with a

galvanized iron that permits the use of five frames in each division. Figure 4 (bottom left), the ten-frame hive body divided with a three-fourths inch board that permits the use of only four frames in each half. Figure 5 (bottom right), the three different sizes and shapes of frames used in the two-colony hives.

Bees Increase Yields, Viability of Carrot Seed

Value of honey bees, as pollinators, in increasing the yield and viability of carrot seed has been established through cooperative research by the U. S. Department of Agriculture and the Utah Agricultural Experiment Station. Results indicate that it may pay seed growers to make use of honeybee colonies when carrots are in flower.

Prior to this study, carried out in 1954 at Logan, Utah, natural insect pollination was considered quite adequate for good carrot-seed production and for obtaining a high percentage of viable seed. Observation had shown that carrot flowers are normally visited by great numbers of many different insects. Lygus bug damage was blamed as the major cause of poor viability.

Nevertheless, by caging carrots with honey bees, L. R. Hawthorn, G. E. Bohart, and E. H. Toole of USDA's Agricultural Research Service succeeded in boosting seed yields 28 per cent above those from carrots grown under normal, uncaged conditions.

Red Core Chantenay carrots, caged with honey bees, yielded seed at the rate of 771 pounds per acre—of which 740 pounds on the average was viable seed. Uncaged carrots—visited by more than 250 different species of insects, including bees—yielded at the rate of 601 pounds of seed per acre. An average of only 566 pounds of this seed was viable.

When all insects were excluded from flowering carrots, seed yield was reduced to only 100 pounds per acre and seed viability was reduced about 30 per cent—proving that self-fertilization cannot be depended upon for economic yields of viable seed. Only 67 pounds per acre of this seed was viable—despite the absence of lygus bugs and other destructive insects.

USDA Release, June 25, 1955

Kool Aid from the Flowers . . .

The other day I got quite a kick out of my little five year old girl. I had been telling her how the bees get nectar from the flowers and the next day she came running in the house, all excited, and said: "Momie I saw a bee get some Kool aid from a flower."

Glenn Hopkins,
Greenbush, Minnesota

A Two-Queen System—

(Continued from Page 311)

more honey after the honeyflow was over than did the regular colonies in the same apiary, probably because of their great strength. This excess consumption of food appeared to be an unfavorable characteristic that must be brought under control in order to obtain the highest production of surplus honey from these colonies. There are, in fact, several details in the seasonal management programs for these double colonies that must be worked out through years of study.

There are a number of advantages other than increased honey production that these large colonies appear to possess that are of considerable importance:

1. Because of the limited brood space, the queen is retarded and does not reach her peak in egg laying and begin the down cycle as early in the season as do the queens in normal hives. For this reason, the working morale of the colony is prolonged accordingly and the bees are less inclined to swarm and require less attention.

2. If sulfathiazole or other drugs are used for A.F.B. control, the brood is limited to a smaller space where the strong colony can remove scales of A.F.B. much more effectively than in hives where brood has been reared in the hive body and in one or more supers. Supers can also be extracted when ready without any danger of finding brood in them.

3. Powerful colonies are built up for the pollination of farm crops, especially for clover in late summer.

4. Two queens can be used in one hive body without the addition of a top entrance and without the extra manipulation of supers where the

second queen is placed in an upper hive body separated from the lower one.

There are several important and unanswered questions in this program of management. One of them is whether or not a 10 or 11-frame jumbo hive divided lengthwise will develop colonies as strong as did the hives divided crosswise. It has been found that by dividing a ten-frame jumbo hive body lengthwise with a sheet of galvanized iron instead of a $\frac{1}{4}$ inch thick board, the hive will hold ten standard jumbo depth frames and have a greater brood area than an eleven-frame hive divided crosswise and requiring 22 short or half-length frames. The brood area in the deep ten-frame hive divided lengthwise is 1700 square inches as compared to 1617 square inches for the eleven-frame hive divided crosswise. The effect of a metal division and the larger brood frames on the development of the colony is yet to be determined but a hive divided in this way would be of real value, if as successful, since the larger frames are standard equipment and only ten would be needed as compared to 22 special frames for the hive divided crosswise. Several hive bodies with lengthwise division are now being made for use during the 1955 season. One of them is shown in figure 3 and one in figure 4. Another question is whether or not the screened bottom justifies the extra trouble of putting it under the hive each summer. Other questions of greater or less importance are bound to appear as the work progresses. The writer is looking forward to their solution when they are recognized. Another report will be given on the progress of this work at the end of the season.

\$100,000 Increase Assured for Bee Research . . .

The Research Committee of the American Beekeeping Federation appeared before the Senate and House Agricultural Subcommittees of the Appropriation Committees March 8-9, 1955 and requested \$200,000 additional funds for research on matters pertaining to bee culture:

\$100,000 for pollination and related studies, \$50,000 for honey house and beekeeping equipment, \$50,000 for honey.

The Research Committee chairman received a letter from Dr. A. H. Moseman, Director Crops Research, Agriculture Research Service, stating that \$50,000 of increased funds would be available the first of July 1955 for pollination studies and \$25,000 additional for research on the mechanical phases of beekeeping.

In addition to this we were assured by Dr. George Irving, Deputy Administrator, Agriculture Research Service, that in the near future \$25,000 annually would be added to the amount now being spent on honey research at the Eastern Utilization Research Branch at Philadelphia. This totals \$100,000 additional annually for research.

Clarence L. Benson, Chairman
Research Committee, American Beekeeping Federation

Community Defence Against Robber Bees

by Ronald Ribbands

Rothamsted Experimental Station

IN PRECEDING articles the origin of the distinctive odours which enable bees to recognize their hivemates has been described. In nature, one does not expect complex mechanisms to develop unless they are of some advantage to the animals which possess them, so it is legitimate to ask what use the honey-bee community makes of its distinctive odours. What advantage, if any, does the honey bee gain from its ability to recognize companions? If one bee meets another bee on a flower, it is doubtful whether either would obtain any advantage from being able to recognize the other as a hivemate; it seems highly improbable that the distinctive odours which have evolved and been perpetuated have any use in this situation.

But there is one circumstance in which the recognition of hivemates is of great value to bees. At those times of the year when there are insufficient flowers to provide all the bees with food, they often try to steal the honey which is stored away in the honeycombs of other colonies. In such conditions, the ability to recognize hivemates and to distinguish them from all other honey bees will enable the colony to defend itself against attempts at robbery by members of other colonies.

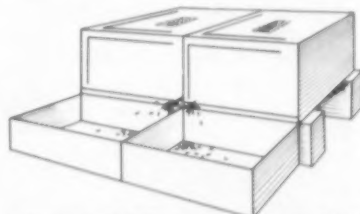
However, the honey-bee community does not defend itself by attacking every invader that does not possess the community odour. Strangers are only attacked in certain circumstances.

In order to investigate these circumstances, two colonies of differently coloured bees were set down a few yards apart and allowed to fly for several days, until they were thoroughly accustomed to their new surroundings. Then the colonies were moved close together, with their entrances only two inches apart, so that bees from either colony often went into the wrong hive by mistake. The accompanying illustration

shows how the colonies were arranged.

This experiment was repeated at various seasons, with varying results. In honeyflows, intruding bees were allowed to enter the strange colony, and the foraging force soon intermingled indiscriminately. In contrast, when nectar was in short supply the strangers were attacked and thrown out from the colonies, often being killed in the process. Most of the intruders were tackled by guards at the hive entrance, but some managed to elude them and to enter; these were mobbed and most of them were eventually dragged out, many being killed; the corpses of the victims fell into the boxes placed in front of the hive entrance. It was also observed that a colony which defended itself effectively against a few intruders might sometimes be overwhelmed by large numbers, and would then admit them without further hostility.

In the final critical experiments, bees from one of the two colonies were trained to visit a dish filled with sugar solution, but no crop was made available to bees from the other colony. When this happened I found that the colony whose foragers were collecting sirup would tolerate strangers from the other colony, although these intruders went into it without food; on the other hand, the colony that was not foraging attacked strangers even if they were carrying full loads of rich sugar solution. These experiments



Community defence. The hives are placed together, with their very small entrances only two inches apart. Empty boxes in front of the hives receive any dead or injured bees.

showed that the chance of successful intrusion depended on the behaviour of the bees in the colony which the intruder was trying to enter. The fact that robbing occurs when crops are scarce and foragers are not otherwise employed, and that colonies are mostly guarded by unemployed foragers, makes this result understandable.

These results (which have recently been published in full in *Proceedings of the Royal Society, Series B, Volume 142*) indicate that robber bees are recognized by their alien scent. They were criticised by those who maintained that guard bees can recognize robber bees, instead, by their characteristic flight alone. Indeed, my colleague John Free has written that he arranged an experiment in such a way that robber bees were induced to attempt to rob a hive containing members of their own colony which had been taken from the parent hive a few minutes earlier, and that in those circumstances the robbers were seized and stung to death by members of their own colony. The validity of this experiment depends on acceptance of Free's opinion that there were no other honey bees in the vicinity, but when I tried to repeat the experiment on the same site and in the same circumstances twelve months later my apparatus was swamped with strange bees; therefore I consider that the original experiment also was not valid.

In my opinion, the important factor in the recognition of robber bees is the alien body odour which they possess, and their characteristic flight is the consequence of their recognition, and not its cause—during my experiments individuals which had been rebuffed from the wrong entrance several times sometimes approached it again with a rather hesitant robber-like flight. This view does not exclude the likelihood that the acquisition of the characteristic robber flight may make subsequent recognition and discomfiture easier and more certain, nor does it exclude the possibility that a bee which behaved in this way might be killed by its own comrades, but I would be surprised to find that this possibility has been shown to occur. In considering this problem, the reader should remember that the senses of insects are very different from our own; their vision is very inferior to ours, and

(Please turn to Page 320)

Judging Apiary Products

by Dr. E. C. Martin

Apiculturist, Michigan State College

HONEY and other apiary products are exhibited at most of the state and provincial fairs and at many of the county fairs. In the United States, the National Honey Show provides an opportunity to name national champions. This year the third National Honey Show will be sponsored by Illinois State Fair, and Mr. Carl Killon of Paris, Illinois will be in charge. Competitors should write to him for entry forms and detailed information. Judging of the National will take place on August 12 and 13. The time is already drawing near so it would be advisable to make plans to enter right away. Fairs are still the show windows of agriculture and it behooves us to keep honey on the prize lists to show the fair-going public that honey is still produced in quantity and quality. When we add up all the state and county fairs in the United States where honey could be on the prize list we have a means of honey promotion available to the beekeepers themselves that is being used very effectively in some places but could be used more extensively in others.

Most of the state fairs are able to enlist the services of a competent judge. At the local fairs it is sometimes difficult to obtain the services of an experienced judge. It is hoped that some of the suggestions contained in this article will help new judges to think out some of the problems of judging and to develop confidence and proficiency in the job. The discussion should also give the exhibitor some tips on preparing his entries so they will meet with the approval of the judge.

It should be emphasized right here that there is no fixed and accepted code of judging standards for apiary products. The ideas expressed here are those of the writer. The score card below has no official status but it may prove useful in its present form or with desired modifications.

Scale of Points for Judging Apiary Products

| | NO. | POINTS |
|---|-----|--------|
| LIQUID HONEY | | |
| 1. Appearance, suitability and uniformity of containers | 5 | |
| 2. Uniform and accurate volume of honey | 5 | |
| 3. Freedom from crystals | 10 | |
| 4. Freedom from impurities, including froth | 20 | |
| 5. Uniformity of honey | 5 | |
| 6. Color | 10 | |
| 7. Brightness | 10 | |
| 8. Flavor and aroma | 15 | |
| 9. Density (No additional points below 16% water) | 20 | |
| | 100 | |

GRANULATED HONEY

| | | |
|---|-----|--|
| 1. Appearance, suitability and uniformity of containers | 5 | |
| 2. Uniform and accurate volume of honey | 5 | |
| 3. Firmness of set | 20 | |
| 4. Absence of impurities, including froth | 15 | |
| 5. Uniformity of honey | 10 | |
| 6. Color | 10 | |
| 7. Flavor and aroma | 15 | |
| 8. Texture of granulation (smooth and fine) | 20 | |
| | 100 | |

COMB HONEY IN STANDARD SECTIONS

| | | |
|---|-----|--|
| 1. Suitability, uniformity and cleanliness of sections (wood) | 20 | |
| 2. Completeness, uniformity and cleanliness of cappings | 30 | |
| 3. Uniformity and completeness of filling | 30 | |
| 4. Quantity, quality and uniformity of honey | 20 | |
| | 100 | |

HONEY DISPLAYS

| | | |
|--|----|--|
| 1. Educational and/or advertising value | 40 | |
| 2. Attractiveness, arrangement and originality | 30 | |



3. Appearance and quality of apiary products

| | | |
|--|-----|--|
| | 30 | |
| | 100 | |

BEESEWAX

| | | |
|---|-----|--|
| 1. Color (straw or canary yellow) | 30 | |
| 2. Cleanliness (free from honey and impurities) | 30 | |
| 3. Uniformity of appearance | 15 | |
| 4. Freedom from cracking and shrinkage | 15 | |
| 5. Texture and aroma | 10 | |
| | 100 | |

Tips for Judges

(1) The scale of points used in this article is more complete than that used in most fair prize lists. Besides being useful to judges, it will also serve to give competitors a better understanding of points to consider in preparing entries. If the fair prize list contains a score card the judge should use it.

(2) A score card may be used mentally or with rough notes. It may also be used to keep detailed scoring for every class. This takes considerable time and bookkeeping. If the competitors or the superintendent requests detailed scoring there should be adequate space and help for keeping records.

(3) If the scale of points is used to score every entry on the point system it is still advisable to cross-check the scoring by placing the samples in a row and arranging and rearranging them in order of preference, keeping in mind all the judging points. After sufficient study

(Please turn to Page 320)

The Miracle of Honey-Bee Pollination

by Roy A. Grout

Roy Grout is probably best known as the editor of "The Hive and the Honey Bee," a modern revision of the older book by Langstroth. It took four years of effort to prepare this revision (which has since also been once revised) and, in speaking of it, Roy says, "Editing 'The Hive and the Honey Bee' taught me more about bees and beekeeping than I ever dreamed was known." Grout cut his eye teeth in beekeeping in the Engle apiaries in North Dakota and in the Dadant yards. He also has bees of his own. As the author of "Pollination—An Agricultural Practice," and "Planned Pollination" (two bulletins by Dadant & Sons) he became well versed in the over-all picture of pollination. Roy is also Associate Editor of the American Bee Journal. He is a graduate of Iowa State College of Agriculture, where he studied under Dr. O. W. Park, obtaining a Master of Science degree for his research on the influence of size of brood cell on the size and variability of the honey bee.



WHEN the colonists came to America, they found a land quite different from that which we know. Not too much is known about that country—at least it is difficult for us today to piece together the information that is available. Of one thing we are certain—it was a land without honey bees.

Nevertheless, ours was a rich heritage, as everyone well knows. There were forests, meadows and plains; the land abounded with seed, fruit,

vegetables, nuts and game; the soil was rich and underneath lay minerals, coal and oil. There was an abundance of wild pollinating insects which ensured the reproduction of much of the native flora.

But it was a land unlike that which we know today. Undoubtedly, there were forests along the seacoasts and in marginal areas. Streams were lined with a growth of timber a mile or more in width but the rest of the land was a vast rich prairie with barren areas and

marshes here and there. Trees were present in these areas but seldom so thick that they prevented growth of grass. According to Bleimann and Brenner,¹ the countryside was parklike and it was possible to drive a team and wagon virtually anywhere across the land. How else could our forefathers have migrated across this great country, pushing the Indians back as they went?

This was a land without cattle, horses, pigs, sheep, and chickens; it was a land without wheat, oats, soy beans, the clovers we know today, alfalfa, cotton, sugar cane, barley, vetch, apples, peaches, citrus fruits and many others. All these were brought to America by the colonists or introduced later. 'Tis true that corn, tobacco, some kinds of beans, and certain fruits such as plums, cherries and the berries were native to America. Doubtless, there were others in this land of opportunity, quite different from our land of today.

That the prairie was rich in grass and legumes is attested to by many facts. It was a prairie so rich in nutrients of grass and seed that it supported vast herds of buffalo, elk, and deer; great flocks of turkeys, wild pigeons, prairie chickens, quail and others; a prairie so fertile that



This honey bee on an apple blossom is seeking nectar in early spring as a source of food for the colony. This results in cross-pollination essential to the production of most fruit crops. (Photo by Lee Jenkins, Columbia, Missouri.)



It made possible the existence of great numbers of animals and birds that our present flora will not support. It wasn't the gun of man that meant their destruction or reduction—it was his plow and his way of life, as we shall see later.

But what caused the lack of trees and made possible the vast prairies of grass and legumes—belly-deep on horses? We get our answer from Dr. Biemann. It was the custom of the Indians, later practiced to some extent by the settlers, to burn the land. Hunters used fire to drive out the game and it also was contended that such a practice improved the grass. Certainly, it resulted in a situation in which trees could not survive and the grasses, legumes, and shrubby plants predominated.

The colonists brought honey bees to America along with their animal friends. Just how or when honey bees were first brought to our shores may not be known. Some say it was the British; others say it was the Dutch. The truth likely has been obscured by time. We do know that, in 1621, the Virginia Colony directed that beehives should be brought to this country and John Josselyn,² in 1638, wrote, "The honeybees are carried over by the English and thrive here exceedingly."

So the honey bees prospered and became an important part of early colonial life. Crystallized sugar, as we know it today, was not available and it is questionable whether maple sugar had yet become of commercial importance. Thus it is natural that the colonists brought with them their own source of sweets—in the

form of honey bees.

Soon after, however, beekeeping declined in the early colonies. Whether this was due to the economics of the time, to diseases of bees such as American foulbrood, or even to the colonists finding that cutting bee trees was an easier way to get honey, is difficult to say. But in spite of adversity, whether in skeps, hollow logs or box hives, honey bees swarmed and extended their range—first to the south and later westward.

The Indians called the honey bee the "white man's fly" and nowhere in their native language has been found words for honey or beeswax. It is related that when the Indian saw a honey bee, he knew that the white man was not far behind. Longfellow in his "Song of Hiawatha" causes the Indian warrior to say about man, honey bees and white Dutch clover:

"Whereso'er they move, before them
Swarms the stinging fly—the Ahmo,
Swarms the bee, the honey-maker;
Whereso'er they tread, beneath them
Springs a flower unknown amongst
us,
Springs the White Man's Foot in
blossom."

Washington Irving, in his "Tour on the Prairies" (1832) stated: "It is surprising in what countless swarms the bees have overspread the far West within but a moderate number of years. The Indians consider them the harbingers of the white man, as the buffalo is of the red man, and say that in proportion as the bee advances, the Indian and the buffalo retire. . . . It seems to me as if these beautiful regions answer literally to

the description of the land of promise—a land flowing with milk and honey; for the rich pasturage of the prairies is calculated to sustain herds of cattle as countless as the sands upon the seashore, while the flowers with which they are enameled render them a very paradise for the nectar-seeking bee."

Oertel and Fraser³ tell the interesting story in which an Indian of New England saw man working horses and oxen, and later saw a colony of bees at work, and remarked, "White man work, make horse work, make ox work, now make fly work; this Injun go away."

Biemann reports that Bradbury stated that the honey bee crossed the Mississippi into Missouri in 1797, and moved 600 miles westward in the succeeding 14 years. He cites Bradbury as saying: "Extraordinary progress in these parts is probably owing to a portion of the country being prairie, therefore yielding a succession of flowers during the whole summer which is not the case in forests."

Biemann points out that the flora of the prairie must have contained many kinds of plants other than grasses to have favored the astonishing increase and progress of the bee. Grass alone would not have supported the bee, and a forest region would have furnished little more than suitable colony sites. To have produced the vast amount of high protein foods required by game (as well as nectar and pollen for honey bees), the country could not have been heavily forested, and legumes must have made up a very appreciable part of the flora.



Ladino clover is fast becoming one of our most important legumes. It is preferred by stock because of its palatability, and by growers because of its high nutritive value and the price obtained for seed. (Photo by Harmon, U.S.D.A.)

And so we had, at that time, a situation in which honey bees flourished to the extent that they moved westward of their own accord as fast, if not faster, than man. And perhaps, the fact that trees were few and far between may have had something to do with the rapidity of their movement.

The early settlers cut the trees for their buildings and for their fires, and cleared the land for cultivation. Then their plows turned under the rich virgin soil. With it all, the habitats of the native, wild pollinating insects were destroyed. Villages and towns came into being, and the Indians were driven back. Their practice of burning the land was halted because fire endangered the white man's houses and holdings.

Thus a situation was created in which the trees could survive and prosper. With it came improved rainfall in parts of the country which encouraged the growth of trees and the spread of the forests. Gradually the native forests of hardwoods encroached upon the country until we have the land as we know it today. Woods and thickets through which it would be impossible to drive a team and wagon, as the pioneers did; thickets consisting of hardwood stems that were not as suitable a habitat for the wild pollinators, as was the prairie sod and the brushy open places with pithy stemmed plants.

As agriculture developed with small fields of virgin soil surrounded by undisturbed land, the wild insects were able to handle the pollination job. But it was only a matter of time before the plow turned under large tracts of land, and the native pollinators began to disappear. Those that survived took to the

fence rows, stream gullies, woodlots and waste fields in order to maintain themselves.⁴

Heavy grazing of land took a further toll of our natural pollinators; and others disappeared along with the rail fences and hedgerows. Planting of large tracts of land to but a single crop, the automobile and paved roads—all had their effect. Probably, the final step was the widespread use of pesticides, which destroyed beneficial insects as well as those which were harmful, and the use of herbicides, which destroyed both the food sources and habitats of the wild pollinators. It is astonishing but true that nearly every agricultural practice has contributed to the destruction of the wild pollinating insects.

Strange things also happened to our soil. First plantings of legumes resulted in high seed yields. But as the land continued to be used for this purpose, seed yields began to decline. It wasn't a matter of pollinators because even when these were present, seed yields continued to be reduced. Apparently something was happening to the soil; trace elements or other soil factors were being consumed by the plant life and were not being replaced by man's management of the land. Today, even small marginal acreages near woods and permanent pastures where wild pollinators should be plentiful, do not produce the seed which our first plantings did. Our scientists still are looking for some of the answers.

Today it is estimated that more than 80 per cent of the pollination task required in our production of fruit and seed crops is accomplished by honey bees—an insect which was not native to America. These in-

clude more than fifty fruit and seed crops. Probably the most important plants being pollinated are the legumes, which make possible the conservation of our soil and the maintenance of its fertility, and which are the backbone of our production of cattle, hogs, sheep and their products.

What a miracle has happened! When the colonists brought the honey bee to America, little did they realize what an extremely important service they were performing. It was not an easy thing to do. The voyage was long; it took a lot of knowledge and care; there were many failures. But it happened—and today America is blessed by a richer heritage because honey bees came to this land of ours.

It should be clearly understood that pollination is only one of the factors required in the production of fruit, fiber and seed crops. In the case of the legumes, it has been demonstrated that good cultural practices are required—proper fertilization, adequate control of harmful insects, and careful harvesting methods. Weather factors also must be right. All are essential, which is the principal reason why pollination as an agricultural practice often has been difficult to demonstrate effectively. But no one can deny that unless pollen is transferred from one flower to another flower of the same species on another plant, cross-pollination and subsequent fertilization does not occur, and no seed results.

The importance of honey bee pollination likely has been overstressed in certain ways. The good that bees do in cross-pollination will never become something for which most beekeepers will be paid. The production of honey and beeswax still will have to pay these beekeepers for their efforts, and it is only logical that their management and practice should be aimed in that direction. In return, the growers of crops requiring cross-pollination for set of fruit or seed will have to be content with concentrations of colonies which can produce a maximum crop of honey. But, even then, growers should appreciate the good the bees do for them.

Growers today are asking for bees. Apiary rentals are a thing of the past although it is good business for the beekeeper to sweeten up his relationships with the farmer by seeing that he has a good supply of honey. Some farmers are offering to cooperate with beekeepers by planting



Colonies should be placed in groups in the fields. Similar groups should be placed at intervals in either direction for best results. (Photo courtesy of Soil Conservation Service, U.S.D.A.)

crops which are good sources of nectar and pollen, and more growers are cooperating by using insecticides least toxic to bees or applying them in ways that do the least harm to beneficial insects. These things alone are worth a great amount of money to the entire beekeeping industry.

Planned pollination on the other hand must be paid for by the grower. Planned pollination is defined as an agricultural practice in which adequate insect pollination of a crop is ensured by providing honey-bee colonies. Usually, the colonies of bees are moved into the orchards or fields after the first bloom occurs, and moved out after the bloom has disappeared. Moving bees is hard work and requires trucks and special equipment. Moving is hard on bees, especially so if the crop involved does not provide a proper and ample source of nectar and pollen. Usually the concentration of colonies required to ensure adequate cross-pollination results in loss of honey, and in some cases none at all. Some plants, like cotton, produce nectar attractive to bees but pollen that they simply dislike. The beekeeper also is frequently subject to loss of bees due to use of insecticides. So any way you figure things, planned pollination must be a paying proposition for the beekeeper.

Planned pollination will never become widespread. It is a specialized practice that will be confined to major seed producing areas, to orchard regions, to cranberry bogs, and to other similar specialized endeavors.

In its broadest sense, the importance of honey-bee pollination has never been overemphasized. If anything, even today, its full importance is not realized. We still are finding out that crops like cotton, vetch and citrus, which do not depend entirely on insects for cross-pollination, produce more when aided by the presence of honey bees. We still are finding out that quality of fruit and fiber is improved when adequate honey-bee pollination is provided. Gradually, our scientists—agronomists, horticulturists, conservationists, and botanists—are beginning to realize that the honey bee is one of their best friends.

For example, R. H. Peebles and S. E. McGregor⁵ are experimenting with the production of hybrid cotton seed, using concentrations of honey bees to ensure crossing. This work at present is confined to long-staple cotton but, if successful, would give reason to believe that this also could

be done with short-staple cotton. Hybrid cotton could mean to the South what hybrid corn has meant to most of the United States. It would require many thousands of honey-bee colonies; this could be a great thing to the beekeeping industry.

There are similar possibilities in the increased production of cotton and cotton seed—cotton with longer staple—through use of honey bees. More and sweeter cantaloupes are produced and, in this case, honey bees are the sole pollinating agent. Some work has been done to show that citrus fruits are of better quality when adequately pollinated by honey bees. And Bellmann^{6, 7, 8} has pointed out the importance of honey-bee pollination to conservation of soil, conservation of wild game, and the maintenance and spread of our wild flowers.

As the pollination requirements of agriculture and nature become greater, and as the full importance of adequate pollination becomes better known, how are we going to provide the pollinators? Certain things can be done to maintain and even to increase our supply of wild pollinating insects, as Bohart⁴ has pointed out, but it hardly appears likely that much can or will be done. It is quite generally thought among scientists that little can be done but to leave them alone. Most are solitary insects that live in burrows in the ground or in pithy stems. They present a much different problem than the honey-bee colony containing some 40,000 to 50,000 individuals.

The number of honey-bee colonies could be increased if the demand became great enough to make it profitable for beekeepers to do so. But even then the rate of increase

would be extremely limited by the number of beekeepers that could be trained to properly manage and take care of them. Beekeeping has not been sufficiently profitable to attract many young men; wages of labor and salaries of industries and professions are more attractive. And it isn't just anyone who likes to keep bees. So even with demand, the rate at which numbers of colonies could be increased is limited.

In all probability, more honey and beeswax would be produced if the number of colonies was increased. One might think that because such colonies would be demanded primarily for pollination, this might not be the case. But even colonies used for adequate pollination would produce some honey under favorable conditions, and it is logical that they would be used to produce honey at those times when they were not at work in pollination. But would more honey and beeswax be a serious problem? It is logical to believe that if we produced more honey, it would bring about additional promotion and research—that through improved organization we might actually have less of a marketing problem than in the past.

Thus it appears that the future of the bee and honey industry will be a brighter one. More and more, growers and people in general will become impressed with the true importance of honey bees and their real service to mankind and to agriculture through their visits to flowers for nectar and pollen, thus accomplishing cross-pollination. As the demand for bees for pollination becomes greater, more bees will be needed—something which will have to be profitable for both the beekeeper and the grower. These bees,



A field of red clover in bloom provides meat and animal products, conserves the soil, prevents run-off of water, and enriches the soil. (Photo by J. C. Allen & Son.)

as today, will be in the care of trained beekeepers with holdings of several hundred to a thousand colonies and more. It will require large trucks and special equipment for loading and unloading colonies. In most instances this work will be performed under the direction of a skilled manager who will contract for the bees, and make all arrangements with the growers—just as is being done in the alfalfa fields of California today.

This is planned pollination on a community scale—it is pollination at its best—best for the beekeeper and his bees, and best for the growers. It involves deliberately saturating an area with bees not for the production of honey but for increased bushels of seed, as Whitcombe⁹ has described. He calls it concentrated pollination, which is a good name.

There are many reasons for planned pollination—concentrated pollination—on a community scale being the only way to a successful program. For example, there is no practical way to control the flight activity of bees; no practical way to train them to visit a specific crop; no way to tie them to the fields which need cross-pollination; and no way to keep them from visiting more attractive sources of nectar and pollen. Many a pollination venture has failed when the bees flew across the road to a neighbor's field which was more attractive or just as attractive to the bees, or flew off to the roadsides for a sip of nectar from sweet clover or mustard.

So because of the bees' own activity, a planned community approach became the only logical one. With it came many other benefits. Many beekeepers were not good salesmen

of pollination; they found it better to leave that task to one who was. Growers found it easier to work with one individual in a large scale or community endeavor, than with several beekeepers; they depended upon him to get the bees and to have them there in the right places at the right time; they depended upon him to see they received populous colonies. On the other hand, the overall manager could see that necessary insecticide applications were done in ways least harmful to bees, and assist with other cooperative efforts on the part of the growers.

California, and Oregon to some extent, now have demonstrated successfully that planned pollination on a community basis can become one of the most beneficial, profitable, and popular agricultural practices in our future farm program. What has happened there can and should happen in other areas of concentrated seed and crop production. In fact, other states producing alfalfa and other legume seeds presently realize they are going to have to do likewise if they are going to be able to compete with California seed.

If honey bees are used extensively in the South either to increase production of cotton and cotton seed or to cross-pollinate strains in the production of hybrid cotton seed, this, too, will require planned pollination on a community scale. There is enough evidence to indicate that there is a possibility of this happening; it will be a great thing for the South and as great a thing for beekeeping.

Planned pollination on a community scale also can be a very beneficial thing in a general farming area where a grasslands farm

program is practiced. Seed yields for the farmers involved would be increased, their pastures would reseed themselves and in lush years be rich with legumes; their fruits and berries would be pollinated. The beekeeper could be paid by the growers seeing that honey production was profitable through providing a sufficient source of nectar-yielding legumes or, if colony concentration was such that some honey was lost, the beekeeper could be partly paid in honey and partly by the growers in the area.

Another good reason why planned pollination on a community basis must be considered, is that we simply do not have enough bee colonies in much of our land to accomplish a satisfactory task of pollination. There are not enough bees in any state to adequately pollinate all of the fruit and seed crops. A community approach is the only way; it is the equitable way, and can become one of our most beneficial and profitable agricultural practices.

Thus, another miracle is unfolding on our land—the miracle of increased yields of seed, fruit and fiber of superior quality—the result of planned use of honey bees in concentrations sufficient to provide adequate pollination of crops on a community scale. Joining hands with good cultural practices, proper fertilization, control of injurious insects, and careful harvesting, planned pollination becomes the "key to our agricultural prosperity," just as the late Frank C. Pellett stated some years ago.

References

1. Biemann, August P. and Louis G. Brenner. The recent intrusion of forest in the Ozarks. *Annals of the Missouri Botanical Garden*. 38:261-282. 1961.
2. Pellett, Frank C. *History of American Beekeeping*. Collegiate Press, Inc., Ames, Iowa. 1938.
3. Fraser, H. Malcolm. Early beekeeping in the U. S. A. Report of the State Apiarist (Iowa). 1960:23-30.
4. Bohart, George E. Pollination by native insects. U. S. D. A. Yearbook of Agriculture. 1953:107-121.
5. Grout, Roy A. Honey bees make hybrid cotton possible. *Amer. Bee Jour.* 95 (1):10-11. 1955.
6. Biemann, August P. Pollination and conservation. *Amer. Bee Jour.* 93(8):331-332. 1952.
7. Biemann, August P. Beekeeping and game management. *Amer. Bee Jour.* 92(2):65. 1952.
8. Biemann, August P. Bees and wild flowers. *Amer. Bee Jour.* 91(7):280-281. 1961.
9. Whitcombe, Harry J. Bee concentration—poor beekeeping but good business. *Amer. Bee Jour.* 92(7):283-284. 1952.



Combining red clover seed in Iowa. Much seed can be lost through inefficient harvesting and every precaution should be taken to prevent seed loss and damage. (Photo courtesy of Elmer F. Timson, Sr.)

Community Defence —

(Continued from Page 313)

their sense of smell is of a superior order.

The phenomenon of "silent robbing," which occurs occasionally when bees from one colony go into another colony and decamp with loads of their stores, is material to this discussion. Silent robbing could occur if, for any one of several reasons, the bees of two or more colonies came to possess the same characteristic odour. In those circumstances there would be no hostility, and no characteristic robber flight would develop. Silent robbing disposes of any suggestion that robber flight is an inevitable accompaniment of illicit entry into an alien colony.

The production of a common and distinctive odour, which enables a colony to defend itself against members of other honey-bee communities, is a very important consequence of the habit of food sharing; and it must have provided an important stimulus for the evolution of this habit—better sharing means better defence, and so a greater likelihood that the community will be able to survive and to perpetuate its kind.

England

Judging Apiary Products —

(Continued from Page 314)

the proper placing usually becomes evident. If properly done the two methods will give the same results.

(4) The accuracy of judging is increased by making positive water-content readings with a refractometer and sampling the color readings with the Pfund grader. Both of these instruments are easy to use with a little practice. The bubble-test for water content is not sufficiently dependable for larger fairs.

(5) Theoretically, it is very desirable for the judge to give verbal reasons for his placings to the group of competitors preferably right after judging each class and while the samples are available. This becomes impossible if there is no suitable place to escape from the noisy crowd attending the fair.

(6) A judge will need water, pail, cloths, toothpicks for sampling honey, paper cups, and a jack-knife. A

refractometer, a Pfund grader and a spotlight for shining through the honey samples are also very desirable, if not essential.

(7) Some judges like to bite an apple occasionally in order to freshen up their mouths while sampling honey. Others prefer to rinse their mouths with water.

(8) Flavor is a contentious matter in judging. Points should be deducted for off-flavors such as those caused by overheating, honeydew, smoke, carbollic, etc. Points should also be deducted for lack of flavor which might indicate old honey, poor storage or too much heat. A judge does not have the right to give preference to his own favorite flavor over other full-flavored table types of honey. For example, he should not score clover honey higher than orange because he himself likes the flavor better.

(9) There is some disagreement on the proper scoring for density in liquid honey. Within reason, honey of low water content is better than honey of high water content. Because the beekeeper can artificially dry out honey to a very low water content it seems desirable to establish an optimum, which might vary to suit different localities. In the table 16% is used.

(10) In scoring granulated honey,

many points should be given for the firmness and fineness of crystal as this indicates the beekeeper's ability to prepare good creamed honey.

General Considerations

(1) Fair superintendents can make it more possible for the judge to do an accurate job by providing adequate help. At larger fairs it is desirable to have at least two assistants to help carry samples and keep records.

(2) Providing space where the judge will be free from interference is necessary.

(3) The superintendent should enforce the general rules of the fair although disqualifying certain entries may be a joint responsibility of the superintendent and the judge. Rules should be enforced rather strictly at the large fairs. At the smaller fairs there should be sufficient leeway that competitors are given opportunity to learn before they become discouraged.

(4) Possibility of bias in judging can be largely eliminated if the entries to be judged can be unlabeled or listed by number only, with the name sealed until after judging is completed.

(5) Honey put through a filter press should be entered in a separate class from unfiltered honey.

Changing Tenants in the Old Oak . . .

From the British Bee Journal,
March 10th 1955, pp. 122-3

In a recent issue of the *Smallholder*, an interesting article appears in the Country Club and Junior Smallholding Section about the tenancy of an old oak tree. The author observed that a pair of woodpeckers started the "apartment" and then reared their young.

Next year the woodpeckers returned but before they had been in occupation long were ejected by a pair of aggressive starlings, but retribution was on the way in the form of white owls.

The owls retained the tenancy long enough to bring up their mischievous young family and departed.

When Spring came round again so did the woodpeckers, but meanwhile a swarm of bees had taken possession, built their comb and looked like staying. This situation, however, never daunted the woodpeckers who assailed the nest and had soon

devoured bees and brood.

Having wrecked the colony (as these birds have demonstrated on occasion this winter in out-apiaries) they decided against taking up residence. But the hole in the old oak did not remain empty for long. A majestic insect happened along in search of lodgings, and soon the hollow was resounding to the hum of hornets.

H. M. Fraser, England

Ribbands' Article . . .

We are advised that the August issue of "Scientific American" will carry a ten-page article by the British authority, Ronald Ribbands, member of the Staff of the Bee-keeping Experiment Station in Rothamsted, England. Our readers will recall that he is the author of that fine book, "The Behavior and Social Life of Honeybees."

Traveling with the Lovells

... Desert Beekeeping

AS we drove west from Uvalde, Texas, the country gradually became more and more arid. Great beds of prickly pear cactus covered the land for miles, and tall yuccas raised their giant stalks of white bloom high above them. Sometimes solid stands of creosote bush covered with yellow flowers and hairy fruits replaced the cactus. At noon we descended into the canyon of the Pecos River and slowly wound our way up the other side. The steep slopes were covered with ocotillo, slender wandlike plants, six to eight feet tall.

We passed Judge Bean's famous home, now a museum, from which he had dispensed frontier justice "west of the Pecos" in pioneer days. Our immediate goal was the Big Bend country where America's newest national park has been established in the Chisos Mountains on the Rio Grande. Our last town before turning south was Marathon, which we reached just as darkness overtook us. The only tourist court was full, but the manager kindly directed us to the ranch of the famous beekeepers, the Hatch brothers, as follows: "Go south toward Big Bend National Park until you come to the third windmill on the right. Then turn left on the second road with a cattle guard. It is only 15 miles; but if you cross a bridge you have gone too far."



White brush in bloom; one of the finest honey plants of the southwestern deserts.

As our speedometer was broken, we decided to drive 22 minutes at approximately 45 miles per hour. At the end of that time we had not seen any of the windmills nor any sign of human habitation, nor did we meet a single auto. We stopped and got out to look around. There sure enough was a windmill, although a small one. A few yards farther down the road there was a side road and sure enough it had a cattle guard. Better still there was a most welcome sign "Honey for Sale." We knew we had found a friend on the desert.

Harvey and Howard Hatch, who have bees all over Texas, were away looking after some of their distant apiaries, but their mother and father-in-law, Mr. and Mrs. Claude Miller made us welcome. The Hatch brothers, who are identical twins, returned the next day. Their home apiary of 100 colonies usually does

fairly well from a great variety of desert plants. Nearby there are great stretches of white brush (*Aloysia ligustrina*) in which they have several smaller apiaries. Three days before our visit there had been torrential rains, the first in many weeks. Even the roads had been under water where they dip down into dry gulches, and the Hatch Ranch too had been partly inundated. "Within nine days of such a rain," said Howard, "white brush bursts into bloom and will remain so from four to 15 days, especially if there is one more shower." A month later they sent me a bottle of white brush honey, which was water white, and so thick that it could hardly be poured; it contained only 12½% moisture. The dry, warm desert air concentrates the honey very quickly.

The Hatches pointed out that the hilly country is covered with lechuguilla (*Agave lechuguilla*), a close relative of the century plant. The basal leaves end in spines which inflict a painful wound. Horses raised in this country develop swollen ankles from frequent pricking. Lechuguilla has long slender clusters of large tubular flowers which secrete nectar freely. The honey is extremely strong with a vile smell which is particularly unpleasant when used on hot biscuits. The Hatches keep their bees as far as possible from the lechuguilla-covered hills. A nearby beekeeper had accidentally made several hundred pounds of this honey the year before but had not been able to find any use for it.

We were amazed by the large number of species of flowering plants being worked by honey bees around the Hatch apiary. Almost everything in bloom had its quota of bees. The honey house was equipped with two 45-frame extractors and a large pressure filter. But the pride and joy of the Hatch brothers is their long air-conditioned truck with which they can distribute their hives to any part of Texas in less than 24 hours. A large water-drip fan in the front of the truck distributes cool, moist air to the hives continuously.

After photographing many new honey plants, we drove on to Big Bend National Park of the Rio Grande, where we camped at 6500 feet in the cool mountain air, and rested after our hot trip through Texas. The mountainsides were covered with century plants in full bloom. After watching the bees and other insects as well as humming



The Hatch Brothers and their air-conditioned truck. The sides are fully screened to prevent the escape of bees.

birds swarm over the great clusters of flowers high above our heads, we decided that H. B. Parks was not exaggerating when he exclaimed, "And the bees roar over the flowers." The park ranger allowed a tarantula to crawl all over him. He explained that even if the great

spider should bite him, it would be considerably milder than a bee sting. In spite of popular opinion they are usually very friendly and rarely bite.

Ethel and Harvey Lovell,
Louisville, Kentucky

Beekeeping in Peru Part 2

by E. J. Dyce

EARLY in 1948 acarine disease was found in Argentina. There is no law in Peru which prohibits the importation of queens, bees and used equipment, and many queens have been purchased direct from Europe and Argentina. It was natural to suspect that acarine disease as well as the common brood diseases might be present in Peru. Consequently all the apiaries which I visited were examined for both adult and brood disease.

Fortunately no acarine disease or American foulbrood were found. We are unable to state that these diseases do not exist in Peru but they definitely were not in evidence in the major beekeeping regions. One case of European foulbrood turned up in the mountains near Majorada and another on the coast near Pacasmayo. No *Nosema* disease was found but dysentery was present in several apiaries.

The wax moth, normally present in warm climates, was also found in Peru, and causes considerable damage to weak colonies and stored combs. Toads eat many bees as they fly to and from their hives unless the colonies are raised about two feet from the ground. Ants and termites also cause considerable damage if they are not controlled with such poisons as chlordane or DDT applied below and around the colonies.

At least two types of birds belonging to the flycatcher family consume large numbers of bees in some apiaries. The one which causes the most damage is about the size of a robin with a yellow breast and black wings. It catches the bees in the air, cuts them in two and appears to consume only the honey stomach. It is called "Tigerta" (*Myiodynastes bairdi*). Shooting the birds appears to be the most effective method of

control. Bee poisoning is a serious problem in some valleys along the coast where cotton is grown.

Most of the hives in Peru are

homemade. Some of the equipment is skillfully prepared, but most of it is very crude and actually unfit to house honey bees. Instead of complete frames, strips of wood somewhat resembling top bars are frequently used to support the combs. In such hives an elongated hive tool or knife is used to sever the comb which the bees extend and fasten to the ends of the hive bodies. A few beekeepers use full sheets of foundation but the majority of them use only narrow strips of foundation as starters. As a result much of the comb is crossed and the percentage of drone comb is abnormally high.

There are no forests on the coast or in the mountains of Peru. Lumber is therefore very expensive. There is plenty of lumber suitable for hive construction in the jungles



Top, a well-managed apiary in the village of Moche on the west coast, owned by Bernardina Aguilar (third from the left). Below, a modern apiary near Arequipa in the southern part of Peru where Mr. Lopez (right) produces most of the queens sold in Peru.

but transportation is very costly. As a result most of the 10-frame standard Langstroth hives which we found in Peru had been imported from Chile or the United States.

Some foundation is now manufactured and sold by a small organization in Arequipa which also produces and sells a few queens and nuclei.

Since the prices charged are about as high as if the foundation and queens were imported, there is so far little incentive for beekeepers to improve their equipment and stock.

Many beekeepers in Peru handle their bees without the use of smoke. In fact a few of them had never seen a standard smoker and were intensely interested in the one I carried with me. When smoke is used they frequently burn waste material on a flat stone or tile. The smoke from this material is then blown occasionally on the bees.

One of the main requirements for successful honey production is to make certain that the bees have abundance of food on which to build

up their populations at least eight weeks prior to a honeyflow. This requirement is not fully understood or appreciated in Peru as well as in some of the other tropical countries in which stimulative feeding is often necessary. This is just one of several important phases of beekeeping management on which beekeepers in Peru need help and advice. One of the greatest needs in Peru is to have a law passed which will prevent the introduction of serious diseases such as acarine disease and American foulbrood.

In culture, Peru is the oldest of the South American countries and contains many of the world's outstanding archeological wonders and relics of an ancient civilization. Thousands of acres of terraces laboriously built and irrigated by the Incas are still in use. Corn and potatoes originated in Peru. Good tourist hotels, many new roads and frequent airplane service now make it possible to see remote areas without hardship. A wealth of magnificent scenery and pleasant living await the visitor.

Crimson Crop Short . . .

Preliminary reports on the 1955 crop of Crimson clover seed by the U. S. Department of Agriculture reveal that there will be a great shortage over last year, in fact, just about half the 1954 crop. Arkansas and Oregon seem to be the exceptions, both of which have a crop 50% larger than in 1954.

Dry weather in the southeastern states last fall, followed by heavy rains at the time of harvesting, made an unfavorable combination for maximum yields.

Dr. Cale . . .

We are proud to announce that G. H. Cale, Jr. (Bud) has just received his Doctor's degree in genetics from the Iowa State College at Ames. For the past few years Bud has conducted the breeding work that resulted in the present fourway hybrids known as Starlines. We have spent twenty-five years in the initiation and pursuit of new lines of honey bees and we hope now in Dr. Cale's hands we will develop improved bees for many years to come.

Honey and Your Diabetes

NUMBER 5

by D. C. Jarvis, M.D.

IN A previous article in this series I discussed the attitude towards wheat foods of native Vermonters who live close to the soil. Having been advised by them not to eat wheat foods if I wished to come to the later years of life with good eyesight, good hearing, good mental vigor and good physical vigor, I became interested in learning whether there were other foods that I should avoid if I wished to follow the correct nutritional pathway that time had proven to be of value. I was told by these native Vermonters to stay away from white sugar and to use honey instead. I asked that I be given reasons why I should avoid white sugar. When I had collected all the reasons given me by these elderly Vermonters they led to much thought and study and observation as the years passed. Here are the reasons:

1. Honey is a mild laxative and its use will control the action of the bowels from the cradle to the grave. If a tendency towards constipation is present, more honey should be taken each meal. If the bowel action is a bit loose, less honey is taken.

2. I was told that honey increases

muscular energy. It brings about quick recovery from muscular work. In the later years of life a relationship exists between the taking of honey and the efficiency of the muscles of the body.

3. Honey is soothing to the stomach. It improves digestion.

4. Honey produces sound sleep at night which is so necessary if one wishes to be at his best the following day.

5. We use honey because it prevents the appearance of cramps in the muscles, especially the muscles of the legs at night.

6. These elderly Vermonters believe that honey bears the same relation to the body that a fertilizer bears to the soil. They state that as an individual grows older he is like a piece of land that has run out. Something is needed to rejuvenate the body. It is believed that honey fills this need very well. They feel the honey bee knows all there is to know about nutrition. They trust the judgment of the honey bee and daily eat the product of its labor in order that the human body may be supplied with all the necessary vital elements it needs to make it age

slowly.

In addition to being told to avoid white sugar these aged Vermonters stated I should eat sparingly muscle meats such as beef, lamb and pork especially during the warmer months of the year. I was told that when in the woods they came across an animal recently killed by another animal, the internal organs of the animal had been eaten by the killing animal. In accordance with this observation, when a farm animal such as a dairy cow was killed for market the liver, heart, kidneys, stomach and pancreas were saved to be served as food on the family table. In doing so they followed the custom of the animals who lived in the woods.

It is helpful to the individual with diabetes in planning his diet to have at his command this background of nutrition that brings an individual to the later years of life with good eyesight, good hearing, good mental vigor and good physical vigor. The food intake provided by nature is a high natural carbohydrate and low protein food intake. I have studied Vermont farmers during the warm months of the year when they live close to the soil and learn they eat the leaves of 45 different plants and bushes and eight different trees. Do you eat each day different leaves in the form of salads?

Fumigating Comb Honey . . .

In this method of fumigating comb honey a waterproof canvas is used. A freshly treated canvas should be aired in the sun to expel any volatile odors. The time and space saved is well worth consideration and the results are even better than those obtained in a closed room, as the concentration of gas is better. Combs stored in the house for winter show no infestation after using this method.

One pound of methyl bromide is used for two hundred supers piled on bottom boards. The supers are piled crosswise for good circulation and the pile is covered with newspapers to keep out any dust. Then the canvas is spread over the pile and the edges weighted down with bricks. Smaller canvases can be used if they overlap.

Before puncturing the can of bromide, open all windows and tie a rope on the far edge of the canvas, passing it up through a pulley and fastening the end by the door. Now you are ready to puncture the well-chilled can. Place it under the canvas midway in the pile. Weight down the canvas again and retreat, locking the door for safety.

Next day, standing safely outside, pull the canvas off the pile. Let the

room air for six hours and store the combs before further moth infestation can begin. Extreme care should be used in handling the methyl bromide.

Charles A. Peet, New York

Rearing Honey Bee Larvae on Royal Jelly

Science magazine, April 8, 1955, reports preliminary work by Nevin Weaver, Department of Entomology, Texas Experiment Station, of attempts to rear honey bee larvae on royal jelly in the laboratory. This was a part of an experiment to determine why some larvae develop into queens and others into worker bees. Although he was successful in raising adults which were queen-like, others were intermediate between queen and worker, and still others resembled worker bees.

Weaver appears to have disproved the proposal that partial starvation of the worker larvae could be an initiating mechanism in determining whether a larvae becomes a queen or worker, since the laboratory-reared larvae had all the food they could eat at all times. However, it is evident that there is a substance or substances in royal

jelly that determine this development, and that they are either highly unstable or not available to larvae after the royal jelly has been stored for a time. Weaver states that until methods are developed for preserving the biological activity of royal jelly, studies of its effect on other animals may yield misleading results.

Newell Forehand . . .

One of the pioneer beekeeping families of the South is the Forehand family, whose original home was in Fort Deposit, Alabama where Mr. and Mrs. A. I. Forehand still are active in producing and selling their original leather-colored stock.

They inform us of the sudden death of another of the sons of the original W. J. Forehand. He is Newell Forehand, who passed away suddenly at Destin, Florida, while with his bees. Newell had been in Florida for many years, having abandoned package and queen shipping for the production of honey. Many of our older readers will remember him. Our appreciation of him goes to the family, from the Bee Journal staff.

Recipes---

Ladies, do you have favorite honey recipes? Send them in. Your subscription will be credited an additional three months for each recipe published.

HONEY CLOVERLEAF ROLLS

2 cakes compressed yeast ¼ cup lard
¼ cup honey 8 cups flour
2 cups milk 2 teaspoons salt
Dissolve yeast in lukewarm water. Scald milk and add shortening. Pour over honey and salt. Blend well. Add yeast when mixture has cooled. Blend well again. Add flour gradually. Knead until dough no longer sticks to bowl. Let rise until double in bulk. Knead again and place 3 small balls of dough in a greased muffin pan. Let rise until light. Bake in moderate oven, 375°, 15 to 20 minutes. Serve hot. Delicious with honey butter made of 3 parts liquid honey and 1 part butter, stirred thoroughly until smooth.

(From Michigan Honey Institute recipes.)

HONEY AND BANANA BREAD

1½ cups flour 1¼ cups bran
2½ teas. baking powder ¼ cup melted shortening
½ teas. baking soda 1½ cups mashed bananas
½ teas. salt 1 egg
½ cup honey ½ cup chopped nuts
Method—Sift the dry ingredients together, add bran and chopped nuts. Mix shortening, banana and egg and beat thoroughly. Add the honey to the egg mixture. Now add the egg mixture to the dry ingredients, minimum amount of mixing. Bake in a greased loaf tin at 375° for about one hour.

Clydie A. Bird, Alberta, Canada

HONEY APPLE RINGS

Core and slice in one-half inch rings, four red apples. Cook four to six rings at a time in a sirup made of one cup water, one-half cup honey, and two dozen red cinnamon candies. Cook until transparent. Remove rings to dishes and pour the remainder of the sirup over the rings. This will form a delicious jelly-like coating. If desired as a dessert serve with plain cream or honey-sweetened whipped cream. To make a delightful salad, place on lettuce and top with the following dressing:

3 tablespoons salad dressing
¼ cup chopped dates and
½ cup nut meats

—Mrs. Eph. Bowman, Saskatchewan, Canada

HONEY ROCKS

1 cup shortening 2 cups flour
1 cup liquid honey 1 teaspoon baking powder
2 cups rolled oats ½ teaspoon salt
1 cup raisins 1 teaspoon soda
1 cup chopped nuts 2 tablespoons milk
Cream the shortening, using half butter. Gradually cream in the liquid honey. Add rolled oats, raisins and nuts. Sift together the flour, baking powder, salt and soda. Add to first mixture along with the milk. When thoroughly blended, drop batter onto a greased cookie sheet leaving some space between each cookie as they spread in baking. Bake in moderate oven (300° F.) for about 20 to 25 minutes. Makes about 5 dozen cookies.

—Mrs. Eph. Bowman, Saskatchewan, Canada

HONEY NUT BROWNIES

½ cup shortening 1 cup pastry flour
2 squares chocolate 1 teaspoon vanilla
2 eggs, well beaten ½ teaspoon salt
½ cup honey ½ cup nutmeats
½ cup sugar
Melt shortening and chocolate together. Add the beaten eggs, honey, sugar, and flour, to which the salt has been added. Add nuts and flavoring. Pour into a shallow pan and bake for 40 minutes. Cool, spread with fudge icing and cut in squares.

(From Homemakers of Iowa, Iowa State College.)

MEETINGS

Federation Honey Display Picture Contest

An announcement of this contest was made in the July issue. Following are the rules of the contest:

1. Pictures must be of actual displays of honey in retail stores (not Fairs).
2. Prints must be 4 x 5 or larger and suitable for publication. Contestants may enter more than one print, but not more than five.
3. Contest open to all beekeepers, hobbyist beekeepers, packers, dealers in honey and their families, excepting officers and executive committee members of the Federation and members of their families.
4. No entries can be returned.
5. Duplicate entries (that is pictures of the same display but from different contestants) will be judged by the photography.
6. Prizes—1st Prize—Beekeeping supplies to the value of \$50.
2nd Prize—Beekeeping supplies to the value of \$30.
3rd Prize—Beekeeping supplies to the value of \$20.
Also five \$5 prizes.
There will also be duplicate prizes for store managers or proprietors, the food merchant's name and address to be included with the entry.
Total prizes—\$250.
7. Pictures will be judged by originality of display, honey selling ability of the display, and photography.
8. Contest closes on November 15, 1955, and all entries must be addressed to Robert Banker, Sec.-Treas., American Beekeeping Federation, Cannon Falls, Minnesota, and must be postmarked no later than November 15.
9. Winners of contest will be announced as soon as possible after Nov. 15.
10. All entries will become the property of the American Beekeeping Federation and the decision of the judges will be final.



Anniversary meeting in August, 1954, in connection with the Short Course. This is the banquet picture at State College, Pennsylvania.

Beekeeping Short Course

Pennsylvania State University

August 22 to 27, 1955

Monday A.M. Registration

Monday P.M.

1:30—A word of welcome, Dr. Bertil G. Anderson; introductions.

1:40—Announcements.

1:45—Introduction to beekeeping terms.

2:00—Secrets of the hive, Edwin J. Anderson.

2:45—Making a start in beekeeping, W. W. Clarke.

3:00—Inspection of the laboratory and equipment.

4:00—Demonstration on assembling equipment.

Tuesday A.M., W. W. Clarke

8:30—Colony activities and characteristics, George Rea.

9:15—Care and introduction of package bees, Edwin J. Anderson.

10:00—Spring management, W. W. Clarke.

11:00—Swarm control, Edwin J. Anderson.

11:30—Question period.

Tuesday P.M.

1:30—Work in the apiaries to observe; a. check colonies for swarm control; b. honey production; c. demonstrate swarm control practices; d. remove honey from colonies with bee escapes and carbolite cloths.

Tuesday Evening.

7:30—Honey producing area, Edwin J. Anderson; Honey plants of Pennsylvania, W. W. Clarke; Movies, Story of the bee.

Wednesday A.M.

8:30—Summer management, W. W. Clarke.

9:15—Fall and winter management, George Rea.

10:00—Queen rearing, Edwin J. Anderson.

10:45—Requeening, W. W. Clarke.

11:30—Question period.

Wednesday P.M.

1:30—Demonstration; 1. Shaking package bees; 2. Introducing queens; 3. Transferring bees from a box to a modern hive.

Wednesday Evening

7:30—Early history of beekeeping, George Rea; Composition properties of honey, Edwin J. Anderson; sampling kinds of honey, W. W. Clarke.

Thursday, A.M.

8:30—Comb honey production, Edwin J. Anderson.

9:15—Pollination of farm crops, W. W. Clarke.

10:00—Management of bees for extracted honey production, George Rea.

10:45—Extracted honey and its care, Edwin J. Anderson.

11:30—Races of bees, W. W. Clarke.

11:45—Question period.

Thursday P.M.

1:30—Examining colonies in apiary used for queen rearing and mating queens; grafting in the apiary; removing honey; making queen equipment.

Friday A.M.

8:30—Control of skunk, mice, ants, wax moth, etc., George Rea.

9:00—Diseases of honey bees, W. W. Clarke.

10:00—Marketing honey, Edwin J. Anderson.

(Please turn to next page)

10:45—Care of beeswax, W. W. Clarke.

11:15—Question period.

Friday P.M.

1:30—Extracting and bottling honey in the honey house, with three sets of equipment; grading comb honey; wrapping cut comb honey; bottling chunk honey; working beeswax.

Friday Evening

6 p.m. — Banquet, Autoport on Route 322 on southern edge of State College; speaker; movies.

The American National Honey Show — August 12-20

All beekeepers living within driving distance of Springfield, Illinois should not miss an opportunity to see the American National Honey Show and the Illinois Honey Show.

We plan to have a show that will be the best of all. The displays will fill over half of one large building. The booths and display cases will be beautifully decorated to make the best possible showing of the world's finest sweet.

There are other attractions for one to see besides the Honey Show and the greatest State Fair. Each year thousands of visitors from many parts of the world visit Lincoln's Tomb, his home and nearby the New Salem State Park.

It is not too late to make an entry and then you have an extra excuse for wanting to see the Honey Show.

Judges—E. C. Martin, East Lansing, Michigan; Culinary, Miss Mary Perisho, Paris, Ill. Secretary, Carl E. Killion, Paris, Ill.

Only one entry will be permitted in any lot by one exhibitor. Only one member from any family or household may make entry in any lot. Exhibits must be delivered not later than 5 p. m., Aug. 10, to the Illinois State Fair Grounds, Springfield, excepting entries in Class J which may be delivered as late as 5 p. m. Aug. 11. Labels and cartons for reshipping exhibits by general carrier must be supplied with the exhibit. Articles to be exhibited must be accompanied by an invoice listing each item and its valuation. Each article on exhibition shall carry in an inconspicuous place, (as on the underside of the jar) the exhibitor's number on tape or clearly marked with a waxed pencil. Every article exhibited must be the property of the exhibitor and all the honey must have been gathered and ripened in a natural way in the U. S., by bees which are the property

of the exhibitor. In classes A through H the predominant floral source of the honey shall be indicated by a label attached to one jar in each exhibit. Exhibitors of similar floral sources will compete against each other. The winners will then compete for the best sample in the class and in the show. No exhibits shall be removed from the show before 9 p. m. Aug. 20. Entries for the show must be filed with the Secretary by Aug. 8. Entries arriving after that will be considered only if space is available.

Section honey to be exhibited in the comb classes must be 4½ inches or 4x5, packed in cardboard window cartons for display. All extracted or granulated honey must be packed in display jars (Hazel Atlas, West Coast No. 2307, or east and middle west No. 5439); one pound with normal air space at the top of the jar to allow for expansion that may cause leaking. Exhibits of beeswax shall be wrapped in clear cellophane free of any design. All exhibits in Class J must be accompanied by two copies of the recipe indicating the ingredients in standard measures, typed on 4x6 inch white cards.

There will be ten trophies offered by various groups in the industry. Honey classes range from A to J, to include light colored honey, golden, amber, dark, comb honey, chunk honey, granulated honey, beeswax, honey uses, and three lots in cullary. Complete details of classes and rules can be obtained from Carl Killion, Paris, Ill.

Washington State Beekeepers Assoc. Annual Picnic, August 6

The Washington association will hold its annual potluck picnic at Ohanapecosh Hot Springs Camp Grounds on Saturday, August 6 at 12 noon. There will be a short business meeting following the picnic with a discussion of the inspection program in our state.

This camp ground is in the southeast corner of Rainier National Park—12 miles north of Packwood or 17 miles south of Chinook Pass. All who are interested in beekeeping are encouraged to attend.

Mrs. Carl W. Van Wechel, Sec'y

Wisconsin State Fair, Milwaukee Aug. 20-28

Bees and Honey—Department J—Superintendent, Arthur W. Kehl; Judge, John Long. Entries close Aug. 10. Make entry on regular entry blank and mail to Wisconsin State

Fair, State Fair Park, West Allis. Entry blanks sent on request or they may be picked up at the Honey Building. Entries must be in place not later than 8 a. m., Aug. 10. A fee of 50c per entry will be charged and must accompany entry blanks. In all classes each exhibit must contain 3 jars or 3 combs with the producer's label; and 3 jars or 3 combs without producer's label. Competition open to all beekeepers. For classes and exhibits write to Arthur W. Kehl, Watertown.

Franklin County Beekeepers Greenfield, Mass., August 28

The Franklin County beekeepers will have a picnic at Mr. and Mrs. Burton Reed's apiary at Factory Hollow on Route 2 between Greenfield and Turners Falls, Mass. This affair will start at 2 P.M. with a corn roast at 5 P. M.

Joseph J. Cummings, Sec'y.

Tenn. Beekeepers Assoc., Inc. Jackson, October 13-14

On October 13 and 14, the Tennessee Beekeepers Association will hold its annual convention at Jackson in the New Southern Hotel.

L. H. Little, Sec'y.

Westchester County New Rochelle, N. Y.

The Westchester County Beekeepers Association will not hold an August meeting. Many of our members will be on vacation at this time, so it was decided to eliminate the meeting for this month.

In September, there will be a joint meeting in the Bronx, so let's make this a good turn-out. Further information will be published.

Mrs. Alfred Roth, Publicity

Berks County Beekeepers Assoc. Leesport, Pa., August 13

The Berks County Beekeepers' Association will hold their summer meeting on August 13 starting at 1:30 P. M., at the Ontelaunee Orchards, Route 122, Leesport, Pa. (nine miles north of Reading). The program will include as guest speakers—Paul Holcomb, Supt. of Bee Culture from Lambertville, N. J.; Prof. Edwin J. Anderson, W. W. Clark, both of Penn State College; and the Penna. Bee Inspector. There will be a selection of contests with prizes awarded. Honey ice cream will be furnished by the Association. An invitation is extended to all beekeepers and their friends.—

S. B. Althouse, Sec'y.

**Vermont Beekeepers Assoc.
Middlebury, August 27, 1955**

The annual summer meeting of the Vermont Beekeepers' Association will be held at the honey plant of Charles Mraz in Middlebury, Vermont on Saturday Aug. 27, 1955.

Charles Mraz is the largest beekeeper in the New England states; and you will want to look over his new and well arranged honey house. Of special interest is his system of cutting, drying and packing his individual serving comb honey packages.

Maxine Manchester will tell us about the Eastern Beekeepers' Conference in Maryland, which she attended in June.

Meeting begins at 10:00 A. M. and lasts until about 4:00 P. M. Bring samples of your honey for competition for prizes and don't forget your picnic lunch.

Clyde N. Wood, Secretary

**Middlesex Co. Beekeepers Assoc.
Malden, August 27**

Members of the Middlesex County Beekeeper's Ass'n (Mass.) held their third outdoor meeting of the season at the home of Mr. and Mrs. Chester McInnes, 521 Marrett Road, Lexington. A large number of members and guests gathered to enjoy their first meeting at this location. The club hive was inspected and was found to be in excellent condition.

In addition to our regular meeting held at the McInnes', extra meetings were held during the month at the summer homes of Mr. and Mrs. Robert Cheney in York, Maine, and Mr. and Mrs. William Austin, Monument Beach, Cape Cod.

The August meeting will be held on Saturday, August 27, at the home of Mr. and Mrs. Alymer Jones, 34 Chandler Road, Malden, Mass.

L. C. Proctor, Sec'y

**Palmetto State Short Course
Clemson College, South Carolina
August 16-17**

Tuesday, Aug. 16 — Program — "Feeding Bees", L. J. Jordan, Lancaster; "Honey Plants and Their Abuse", C. G. Ellison, Belton; "Marketing the Honey Crop", L. C. Hamilton, Marketing Specialist; "Handling the Honey Crop", A. H. Purser, Asst. Entomologist; "The Importance of Good Queens", L. H. Little, State Apiarist, Tenn.; Questions and Answers. Demonstrations—Bee Diseases, Smoker Lighting Contest, Fumigation of stored Combs, As-

sembling equipment, Transferring, Making Increase with Laughing Gas.

Wednesday, Aug. 17—Program—"How to Produce Honey from Package Bees", Garnett Puett, Hahira, Ga.; "Scale Hives and Honeyflows," David Dunavan, Associate Professor of Entomology; "Summer and Fall

Management," W. C. Johnson, Beekeeping Specialist; (Topic to be chosen), W. E. Neville, Extension Apiarist, University of Georgia; Beginners' Hour; Questions and Answers.

Meetings in Room A-203, New Agricultural Center.

Southern States Federation, Asheville, Oct 10-12

This meeting was announced in July. Full program details will be in the September issue but we know there will be a panel discussion on the effects of poisons on bees to be participated in by beekeepers, technical workers and chemical company representatives. During this time there will be an amateur session demonstrating the assembly of equipment, packing honey, discussion of swarming, winter management and other topics. The banquet will be Monday night (10th). For the honey auction Monday afternoon there will likely be a good quantity of honey contributed, including some fine, new crop sourwood. Tuesday morning is the public relations workshop where a TV show will be prepared for presentation later. Tuesday afternoon will be devoted to a discussion of bee diseases and therapeutics. Outstanding speakers will

include Mrs. Grace, J. I. Hambleton, Harold Clay, Bob Willson and others. On Wednesday there will be a trip through the Great Smokies. We can put in a good word for this as the region is second to none in this great U. S. Try the Skyline Drive yourself when you go to the Southern Federation meeting and you will agree. Highway 19 out of Asheville follows a gently winding path to Lake Junaluska, then on to Maggie Valley, a picturesque village, cradled by tall mountains. Then the climb to Soco Gap and Mile High and Heintooga Overlook, two wonderful views. On down to Cherokee Indian Village, Oconaluftee, where life goes back to 1750. In nearby Mountain-side Theatre, Kermit Hunter's great choric drama, "Unto These Hills," is performed nightly except Sundays. So come to this meeting and let it be your vacation time.



Gateway to Oconaluftee Indian Village, at Cherokee, near Asheville, North Carolina. (Picture from Lou Harshaw, Asheville Chamber of Commerce)

WILLIAMS ITALIAN QUEENS
 Large Leather-Colored Three-Banded
QUALITY SUPREME
 Certificate with each shipment
 1-9 Air Mail 85c Each
 10-99 Air Mail 80c Each
 100 Up Air Mail 75c Each
DR. WILLIAMS APIARIES
 115 W. Sterling St. Baytown, Texas

STOLLER'S

FRAMESPACERS

The finest thing ever offered beekeepers.
 See your dealer or write.

STOLLER HONEY FARMS
 Latty, Ohio

PACKAGE BEES and QUEENS
 Bright Three-Banded Italians
 Queens, 1 to 50, \$1.00 each; 50 up, 90c
 1-lb. pkg. w/q, 1 to 50, \$3.25; 50 up \$3
 3-lb. pkg. w/q, 1 to 50, \$4.25; 50 up, \$4
We guarantee safe arrival.
TAYLOR APIARIES
 Box 249, Luverne, Ala.

**We Work Your Beeswax
 and Purchase All Grades
 of Honey.**

We pay you the best prices for
 quality honey and beeswax.

Write for 1955 Catalog

THE FRED W. MUTH CO.
 229 Walnut St., Cincinnati 2, Ohio

Bees and Queens
 Send for FREE Circulars
 Booking orders now.
 Over 30 years a shipper.
Blue Bonnet Apiaries
 Weslaco, Texas

- B. **WAXMASTER** Electric Capping
 Melter
- L. **HANDY** Hive Lifters
- M. **COMBINATION** Hive Covers with
 top entrance

Write for further information.
B. L. M. Manufacturing Co.
 Lisbon, N. Y.

BEE WORLD

Including
Apicultural Abstracts

Science is international. So is Bee
 World, a scientific journal published
 monthly by the Bee Research Asso-
 ciation. Editor Dr. Eva Crane.

Subscription \$3 a year.
 Sample Copy 10c.
American Bee Journal
 Hamilton, Illinois
 Agent for U. S. A. and Canada

We render old combs, cappings, and
 slumgum for beekeepers. Our steam wax
 presses get every available ounce of wax
 out of this material. Send for terms.

DADANT & SONS, Inc.
 HAMILTON, ILLINOIS

Empire State Honey Producers August 13, Auburn, N. Y.

The annual summer meeting and
 picnic of the Empire State Honey
 Producers' Association will be held
 Saturday, August 13, at beautiful
 Emerson Park on Owasco Lake, Au-
 burn, N. Y., in the large pavilion.
 This adjoins Owasco Lake Park that
 has plenty of amusements for chil-
 dren and grownups, fire places, and
 swimming facilities. There is a res-
 taurant for those not wishing to
 bring their lunch. Starting time 10:00
 A.M. Lots of games and contests,
 with very fine prizes. An interesting
 and timely program has been plan-
 ned. Everyone is invited.

Mary Cary, Secretary

Annual Beekeepers' Field Day Purdue University August 17, 1955

9:30-11:30 a. m. D.S.T. (8:30-10:30
 a. m. C.S.T.)

Assembly Room, Agricultural
 Building.

Opening Address—Professor J. J.
 Davis, Head of Department of En-
 tomology, Purdue.



ABIE STINGS SEZ:

No nectar expected now until
 about the second week in Septem-
 ber and the colonies are just
 filled with idle bees just a-eatin'
 their fool heads off. Lots of 'em
 will die before the fall flow starts.
 Think I'll shake some out of each
 hive, squirt 'em with some laugh-
 in' gas, give 'em some honey, pol-
 len, a frame of brood, and a new
 queen. With a good fall flow,
 maybe they'll build up as colonies
 for next year.

Our Cover Picture . . .

Mountain Laurel — Also called
 calico-bush or spoon-wood and, in
 the Southern states, poison ivy. It is
 found in higher altitudes from On-
 tario and New England and south
 to the Gulf states. It is credited as
 a source of poison honey. Often hill-
 sides are covered with this laurel
 and, when in bloom, it makes a
 beautiful show.

Labeling Royal Jelly . . .

An inquiry to the Food and Drug
 Administration as to the status of

Colony Morale and Swarm Con-
 trol—John M. Amos, Virginia Poly-
 technic Institute, Blacksburg, Vir-
 ginia.

Bees in the Far North—B. E.
 Montgomery, Purdue.

11:45 a. m.-1:15 p. m. D.S.T. (10:45
 a. m.-12:15 p. m. C.S.T.)

Columbian Park, Lafayette—Old
 Fashioned Basket Dinner (bring a
 big basket of food and let's all eat
 together).

1:30-4:00 P.M. D.S.T. (12:30-3:00
 P.M. C.S.T.)

Purdue Agronomy Farm, Rd. 52,
 5 miles north of West Lafayette.
 Gilbert Perigo, Chief Apiary Inspec-
 tor, Indianapolis, presiding.

The Beekeeper's Problems in Polli-
 nation Work—J. M. Amos, Blacks-
 burg, Va.

Inspection of Pollination and
 Plant Breeding Experiments—Staff,
 Entomology and Agronomy depart-
 ments, Purdue.

Inspecting and handling bees—In-
 diana Deputy Bee Inspectors.

Royal Jelly brings the following
 reply from Mr. Harold O'Keefe, As-
 sistant to the Commissioner:

"This administration has little in-
 formation on the safety and other
 properties of 'Royal Jelly.'

"We therefore regard the article
 as a 'new drug' as that term is de-
 fined in section 201(p) of the Federal
 Food, Drug, and Cosmetic Act, for
 which a new-drug application, filed
 in accordance with section 505 of the
 Act, must be made effective before
 it can be legally marketed for drug
 purposes."

Copies of the act may be obtained
 by writing the above administration.

Answers to Beekeeping Questions . . .

Walter Barth, the genial associate
 editor of "Gleanings in Bee Culture"
 is getting his hand in as an author.
 He has issued a complete revision
 of "500 Answers to Beekeeping Ques-
 tions" as originally written by Geo.
 S. Demuth, late former editor of
 the same magazine. Mr. Barth has
 done a good job of revision, includ-
 ing much new information not ap-
 plicable in Demuth's day. The book
 is paperbound and contains 100
 pages. It may be obtained either
 from this office or from the Root
 publication office in Medina, Ohio.
 The price is \$1.00.



Sue Bee Says:

Market your HONEY and BEESWAX through the SIOUX HONEY ASSOCIATION, with thirty years of experience in serving beekeepers, whose interests are identical to yours.

New Sue Bee Foundation

is second to none and can be made up on an economical exchange basis. Whether you need foundation or not we are always in the market for your beeswax. Our rendering facilities can handle all kinds of wax and comb rendering. Give us the opportunity to show you satisfactory returns in pounds of wax obtained from your combs and slumgum at very nominal cost.

We carry a full line of Foundation, Containers, Extracting Equipment, Woodenware, Carbohc Acid, Cyanogas, Smokers, Gloves, Veils, Hive Tools, Paint and many other items. Contact us for all of your needs.

The finest Laboratory in the Middle West is maintained by this Association in Sioux City. We will test your honey, beeswax or suspected bee diseased combs free. Write or Phone us.

A membership in the SIOUX HONEY ASSOCIATION is valuable to every beekeeper, large or small and your inquiry about membership will be welcome.

Sioux Honey Association

Sioux City, Iowa

Lima, Ohio; Rogers, Texas; Tacoma, Washington; Anaheim, California

J. E. Wing & Sons
42 Years' Continuous Service
ITALIAN PACKAGES
BEES AND QUEENS
OUR SPECIALTY
Knights Landing, Calif.

Queens—AIRMAILED

\$0.55

E. J. Bordelon Apiaries
Box 33, Moreauville, La.
Phone 2415



"Originators of Frame-Grips"

Send now to McCORD MFG. CO.
Rt. 2, Box 986, San Jose, Calif.

Positive Grip Through
the Leverage Action of
This Strong Aluminum
Frame-Grip.

Also obtainable from your leading Bee
Dealer. Don't accept a substitute.

DeLuxe - 2.75
Utility - 2.45
Plus 32c postage
fee.

NORTHERN QUEENS

Pure Leather-Colored acclimated
Italian Stock.

Untested—1.24 \$1.00
24-up75
Select Tested in Large Cages \$2.00

Service and Satisfaction

BARGER APIARIES
Carey, Ohio

American Rabbit Journal
Shows the Way to Success

The leading Rabbit Farming Magazine.
Explains the growing meat rabbit industry.
Non-fancy. Est. 1931. 3 years \$2.00;
1 year \$1.00; Sample dime.

American Rabbit Journal

Dept. B. Warrenton, Missouri

LIGHT ITALIANS

A top-producing, gentle strain

Queens \$1.00

SUNRISE APIARIES

Box 166 Petal, Miss.

JOHNSON
DOVETAILING EQUIPMENT
for the beekeeper's shop.

Write for details.

CARL E. JOHNSON COMPANY
1557 Gregory Avenue
Lincoln Park, Michigan



**GET READY FOR
THE HONEYFLOW**
with Tennessee Italian
Queens.
John Davis Italian Queens
— Ea. \$1.25, any number.
Queens Available
after April 15

Tennessee Bee & Honey Co., Inc.
Formerly Little's Apiaries
Shelbyville, Tennessee

Editorial

Honey Packers and Dealers Launch Assessment Program

The American Bee Journal takes pleasure in giving the fullest publicity to the following wire received from Roland C. Stone, secretary of the National Honey Packers and Dealers' Association.

"National Honey Packers and Dealers have agreed on assessing on volunteer basis 1 cent per can at handler's level to be equaled by 1 cent per can at producer's level. Funds thereby derived to be spent by Honey Industry Council of America for promoting increased use of honey. Effective date August 1. Details being mailed."

The American Bee Journal heralds this as one of the finest moves the bee and honey industry has ever made, and urges all producers and buyers of honey to cooperate.

As the program now is planned, those packers and dealers who have agreed to cooperate will buy stamps from Leslie Little, secretary-treasurer of the Honey Industry Council of America. Stamps will be available in denominations of 25c, 50c, \$1.00, \$2.00 and \$5.00 and in two colors. One color will denote the producer's contribution and the other that of the buyer. When a honey buyer is able to get a producer to agree to this voluntary assessment of 1c per 60-pound can, he will then make a deduction from the remittance to the producer. To prove to the producer that his 1c per can, as well as the buyer's 1c per can, has been turned over to the Honey Industry Council of America, the buyer will affix his stamps of the appropriate value, and the producer's stamps in the same value, to the remittance notice which he gives to the producer.

The money then is turned over to the Honey Industry Council of America and will be used by them for increasing the sale of honey. Recommendations covering the spending of the money will be made by the American Beekeeping Federation, representing the producers, and the National Honey Packers and Dealers Association, representing the buyers. Some of the suggested uses of these funds are: point of sale material for National Honey Week as sponsored by the Federation, contribution to the American

Honey Institute, financing of research on honey, and other projects.

In any state where a compulsory contribution has already been made at the buyers' or producers' levels, and such contribution is equal to or greater than the 1c by the voluntary assessment, an additional assessment will not be made on the buyer or the producer for the honey thus covered. This is the case already existing in Colorado and California.

Honey packers and dealers who are cooperating in this program to date are:

Lose Brothers, Inc.
Busy Bee Farm
Florida Honey Cooperative, Inc.
Miner Products Company
Honeymoon Products Company
Champlain Valley Apiaries
H. J. Botsford & Company
Sanders Bee Hive Ranch
Felix Braun & Company, Inc.
Cox Honey Farms
Lush's Luscious Honey
Clover Bloom Honey Company
Clearbrook Honey Farms
Baker's Quality Honey
Roscoe F. Wixson
Walter G. Sagunsky
Howard Honey House
T. W. Burleson & Son
Superior Honey Company — all
branches

F. D. Manchester & Son
R. B. Willson, Inc.
Morton Foods
Rocke Apiaries
R. D. Bradshaw & Sons
Sun Crown Food Corporation
Weaver Apiaries
Merit Food Company, Inc.
High Line Apiaries
Sloux Honey Association
Hamilton & Company
J. D. Manchester & Son
John J. Paton Company

The American Bee Journal compliments the above listed honey packers and dealers on agreeing to attempt to put the voluntary assessment plan into effect. We sincerely hope that names of other honey packers and dealers will soon be added to this list either as these individuals and companies see the good that can happen through this fine cooperative effort, or find that producers are selling their honey to those packers and dealers who have shown a mutual interest in progress for the bee and honey industry.

BEE SMART...use clean, bright, tight...
Continental Honey Cans

CONTACT THE NEAREST DISTRIBUTOR

PHOENIX, ARIZONA
 Quick Seed & Feed Co.
 Superior Honey Co.

ALHAMBRA, CALIF.
 B-Z-B Honey Co.

FOWLER, CALIF.
 Central Valley
 Beekeepers Club

FRESNO, CALIF.
 Miner Products Co.

LOS ANGELES, CALIF.
 Diamond Match Co.
 General Can Co.
 Hamilton & Co.
 Sioux Honey Assn.
 Superior Honey Co.

SAN BERNARDINO, CALIF.
 W. D. Miles
 860 "F" Street

SAN DIEGO, CALIF.
 George B. Wright

SAN FRANCISCO CALIF.
 General Can Co.

DELTA, COLO.
 Grover E. Turner

DENVER, COLO.
 Cronkhite-Bosanko Supply Co.
 Superior Honey Co.

GREELEY, COLO.
 L. R. Rice & Sons

MONTE VISTA, COLO.
 John Haefeli

WENDELL, IDAHO
 R. D. Bradshaw & Sons

CHICAGO, ILL.
 R. Freund & Company
 S. Riekes & Sons, Inc.

HAMILTON, ILL.
 Dadant & Sons, Inc.

ROCK ISLAND, ILL.
 S. Riekes & Sons, Inc.

COUNCIL BLUFFS, IOWA
 The A. I. Root Company

DES MOINES, IOWA
 S. Riekes & Sons, Inc.

MCGREGOR, IOWA
 John Harnack & Sons

SIOUX CITY, IOWA
 Sioux Honey Assn.

WICHITA, KANSAS
 S. Riekes & Sons, Inc.

CLARKSON, KY.
 The Walter T. Kelly Co.

GRAND RAPIDS, MICH.
 A. G. Woodman & Co.

ONSTED, MICH.
 L. M. Hubbard Apiaries

MINNEAPOLIS, MINN.
 Mondeng Mfg. Co.
 S. Riekes & Sons, Inc.

WINONA, MINN.
 Robb Bros.

ST. LOUIS, MO.
 S. Riekes & Sons, Inc.

MANHATTAN, MONT.
 Cloverdale Apiaries

OMAHA, NEBRASKA
 Barney Fink Container Co.
 S. Riekes & Sons, Inc.

ALBANY, NEW YORK
 G. B. Lewis Company

GROTON, NEW YORK
 Finger Lakes Honey
 Prod. Coop. Inc.

SYRACUSE, NEW YORK
 The A. I. Root Company

FARGO, NO. DAKOTA
 Magill & Co.

MEDINA, OHIO
 The A. I. Root Company
OKLAHOMA CITY, OKLA.
 S. Riekes & Sons, Inc.

NEWELL, SO. DAKOTA
 Oscar H. Clark, M. D.

PARIS, TEXAS
 Dadant & Sons

SAN ANTONIO, TEXAS
 S. Riekes & Sons, Inc.
 The A. I. Root Company

SALT LAKE CITY, UTAH
 Miller Honey Co.

LYNCHBURG, VIRGINIA
 G. B. Lewis Co.

BOYD, WISCONSIN
 August Lotz & Company

WATERTOWN, WISC.
 G. B. Lewis Co.

POWELL, WYO.
 A. D. Hardy



**CONTINENTAL CAN
 COMPANY**



The Market Place . . .

BEES AND QUEENS

THREE BANDED Italian bees and queens—Two extra-good strains, Dadant's Star-line Hybrids and our regular strain. Star-lines, 1 to 25, \$1.30; 25 to 100, \$1.20; 100 up, \$1.10. For the regular strain deduct 25c per queen. Alamance Bee Company, Graham, N. C.

CARNIOLAN and CAUCASIAN untested queens, \$1.00 each; 25 or more, 75c each. Tillery Brothers, Greenville, Ala.

CAUCASIAN BEES and QUEENS—Very gentle and good workers. Also easy to handle. 1 to 25, \$1.00; 25 up, 90c each. Black River Apiaries, Currie, N. C.

NORTHLAND ITALIAN QUEENS—For production, \$1.00 each; 10 up, 90c. Shirl Baker, Rodney, Mich.

LIGHT 3-BAND ITALIAN queens, 80c; 20 or more, 75c. Luther Pickett, Edland, N. C.

GOLDEN ITALIAN bees and queens—Real gentle and easy to handle. Select untested queens, 1 to 25, \$1.00; 25 up, 90c. Carolina Bee Farm, Graham, N. C.

3-BANDED QUEENS—1 to 10, \$1.00 each; 11 up, 90c each. Satisfaction guaranteed. Dalice E. Crawford, Rt. 1, Haw River, N. C.

NORTHERN BRED QUEENS—Twenty-two years of breeding. The best queens for northern states honey production. \$1.00 each. Milton Stricker, Rt. No. 1, Annandale, N. J.

CAUCASIANS—Very hardy, long lived, gentle, good workers, personally raised. Young laying queens, \$1.00 each. Fred Brock, McDonald, Tenn.

GOLDEN ITALIAN QUEENS—Bees are very large and gentle, and heavy honey producers. Price 75c each. Guaranteed live arrival and health certificate. Allen H. Gauthier, Hamburg, La.

FOR SALE

150 colonies, with or without equipment. Standard and Dadant sizes, Disease free. Write for details. Martin Triplett, Triplett, Mo.

8-frame Lifetime Superior extractor, 12-inch baskets, pulley, \$100.00. 1½-in. gear pump, \$15.00. Edmund Varney, 884 Emerson, Sheridan, Wyo.

FOR SALE—40-45 colonies of bees, 10-frame hives, mostly new standard equipment. Will sell with good honey crop on hives. 10 Dadant Starline queens introduced 2 years ago. Most bees progeny of these queens. Old age forces me to sell. C. L. Young, Albia, Iowa. Phone 248R.

FOR SALE—400 colonies, 8-frame, 4-story equipment. 50-frame extractor and complete honey house equipment. Large leased range. Pollinizing orders for all bees. Bees good condition, no AFB. R. C. Townsend, Box 245, Napavine, Wash.

FOR SALE—Steam boiler with oil burner, McElhany uncapping machine and Brand capping melter, Woodman steam wax press, Lifetime eight-frame extractor, \$400.00. Dovetailing machine for hive bodies, in perfect condition, \$200.00. P. M. Williams, Castleberry, Ala.

TWO HONEY MIXING AND STORAGE TANKS. Closed, double jacketed enamel lined with agitator. 1,200 and 5,000 pound capacity. A. I. Root Company, Council Bluffs, Iowa.

FOR SALE—8-frame Root equipment for 700 colony apiary. Write for details. E. H. Wadleigh, Monte Vista, Colo.

HONEY and BEESWAX WANTED

WANTED—Honey and beeswax. State what you have and price. Roscoe F. Wilson, Dundee, N. Y.

HONEY NEEDED—Cut comb and both white and light amber extracted. Describe what you have, Clover Bloom Honey Co., Inc., Box 56, Minco, Okla.

WE ARE PAYING top prices on beeswax and honey shipped to one of our plants. Sioux Honey Assn., Lima, Ohio; Rogers, Texas; Anaheim, Calif.; Tacoma, Wash.; and Sioux City, Iowa.

HONEY WANTED—We pay cash. Tidewater Supply Co., 2711 No. 63 St., Omaha, Nebr.

HONEY WANTED—All grades and varieties. Highest cash prices paid. Mail samples. State quantity. HAMILTON & COMPANY, 2613 South Yates Ave., Los Angeles 22, Calif.

WANTED—Honey, amber or light, in any amount. Send sample for prices. Holland Honey Cake Co., Holland, Mich.

WANTED—Extra white and light amber honey. Let us ship you the containers. Sell us your honey for CASH on delivery. The Hubbard Apiaries, Manufacturers of Bee Supplies and Comb Foundation, Onsted, Mich.

WRITE FOR SHIPPING TAGS and current quotations on rendered beeswax. Any amount from one pound up bought. If you have 25 pounds or more, save 25c by letting us work it into foundation for you. Walter T. Kelley Co., Clarkson, Ky.

CASH PAID for white and amber extracted honey. Send samples and state quantity available. Prairie View Honey Co., 12303 Twelfth St., Detroit, Mich.

HONEY FOR SALE

WHITE CLOVER HONEY in sixties. Ralph Gamber, 910 State, Lancaster, Pa.

POSITIONS AND HELP WANTED

IMMEDIATE OPENINGS for experienced and inexperienced help. Stewart Apiaries, Fairfax, Mo.

WANTED

WANTED—Used Lifetime extractors—geared honey pump—Bogenschutz uncapper. Stewart Apiaries, Fairfax, Mo.

SUPPLIES

BRAND MELTERS and all kinds of bee supplies. Catalogue free. Hodgson Bee Supplies Ltd., 565-13th Ave., New Westminster, B. C.

THE BIGGEST BEE SUPPLY CATALOGUE PUBLISHED (64 pages) free for the asking. Big factory manufacturing a complete line of wooden goods, comb foundation, metal goods, veils and gloves, carloads in stock, daily shipments, any 20c. WALTER T. KELLEY CO., CLARKSON, KY.

NOW READY—Your copy of the BIGGEST MONEY SAVING CATALOG of quality bee supplies at savings up to 25%. Prompt shipment—100% satisfaction guaranteed. WRITE TODAY! Mondeng Mfg. Co., Minneapolis 5, Minn.

WRITE FOR CATALOGUE. Quality bee supplies at factory prices. Prompt shipment. Satisfaction guaranteed. The Hubbard Apiaries, Manufacturers of Beekeepers' Supplies, Onsted, Mich.

SEEDS AND TREES

HONEY PLANTS our specialty. Catalogue on request. Pellett Gardens, Atlantic, Iowa.

HONEY LABELS

Improved designs, embodying color, balance, simplicity, and distinction. Please send for free samples & prices. **C. W. AEPPLER COMPANY** Oconomowoc, Wisconsin

MISCELLANEOUS

AUSTRALIAN BEEKEEPING—Read all about it. \$1. Australian honey flora. \$1. Rex. Peacock, Kerang, Victoria, Australia.

RANCH MAGAZINE—Do you find it difficult to secure information about sheep and sheep ranching methods? The SHEEP AND GOAT RAISER reaches more sheepmen with more information of range sheep than any magazine published. Subscription \$1.00. Hotel Cactus, San Angelo, Texas.

BEES removed from house or tree to hive without touching either house or bees. Bees will then move honey into hive. Save property, honey and bees with my method. Send \$2 for details. Satisfaction guaranteed. George Hawkins, Rt. 1, Lawson, Mo.

KNOW interesting facts about the bees of India through the INDIAN BEE JOURNAL, published in English by the Bhupen Apiaries (Himalayas), Ramgarh, Dist. Nainital, U.P., India, and obtainable from them. Subs. Rs.9/-, or \$15/-, or \$2.25 yearly. Sample copy, post free, Rs.1/8/-, or \$2/6 or 40c (international money order). Payment in mint postage stamps of your country accepted.

**Used
and
New
60-lb. cans**

Write for
Favorable Prices

C. W. Aeppler Co.

Oconomowoc, Wisconsin

**FREE . . .
A Sample Copy
"Gleanings in Bee Culture"
LOOK IT OVER
YOU WILL LIKE IT
A. I. ROOT CO., Medina, Ohio**

**USE ABJ LABELS—
THEY GET RESULTS**

American Bee Journal

FLOWERS' QUALITY ITALIANS

We wish to thank everyone for your orders. Sorry that we had to cancel so many, under weather conditions it was impossible to do any more. We have queens ready bred from hives making 300 lbs. honey. Guaranteed mated and laying, health certificate with each shipment. Prompt shipment.

All Queens Shipped Airmail Insured until October 1.

1-99 65c
100 up 55c

FLOWERS BEE COMPANY
Jesup, Georgia, U.S.A.

A CONSTANT MARKET FOR YOUR BEESWAX

DADANT & SONS, Inc.
HAMILTON, ILLINOIS

HONEY CONTAINERS

Tin - Glass - Paper

Write for price list.

A. H. Rusch & Son Co.
Reedsville, Wis.

PACKAGE BEES FOR 1955

Truck loads a specialty. Nuclei made to order. Caucasian and Italian queens.

EUGENE WALKER
Route No. 2 - Box 207
Live Oak, Calif. — Phone 5584

DADANT'S Foundation for Bulk Comb Honey

A special, light colored foundation, somewhat heavier than thin super, but lower in price. White, beautiful comb honey packed in glass and surrounded with a fine grade of liquid honey is a package that customers just want to buy.

DADANT & SONS, Inc.
Hamilton, Illinois

Lewis-Dadant Branches — Colonie and Montgomery Sts., Albany 1, N. Y.; Stephenson Ave. at 14th St., Lynchburg, Va.; 92 Riverside St., Chillicothe, Ohio; 1010 W. Austin St., Paris, Tex.; Rt. 41, S., Mahira, Ga.

DEALERS EVERYWHERE

Howard Weaver's Personally Reared Caucasian Queens

1 to 9 \$1.00
10 and up90

HOWARD WEAVER

Navasota, Texas

For the Best in Package Bees and Queens

Write or Contact

Any of the Following Members
of the CALIFORNIA BEE BREEDERS ASSN.

| | |
|--|--------|
| Arthur Banta, Los Molinos | Calif. |
| Bowen & Shuman, Williams | Calif. |
| Lloyd Fox, Box 492, Fair Oaks | Calif. |
| Foster Apiaries, Colusa | Calif. |
| Gardner Apiaries, Colusa | Calif. |
| C. F. Koehnen & Sons, Glenn | Calif. |
| Herb Light, Box 77, Colusa | Calif. |
| Lohman Bee Co., Rt. 2, Box 644, Loomis, | Calif. |
| A. F. Miller, P. O. Box 54, Williams | Calif. |
| Sam Moore, Rt. 2, Box 5555, Anderson | Calif. |
| Homer E. Park, Palo Cedro | Calif. |
| E. H. Ryon & Son, Box 56, Durham | Calif. |
| John S. Shackelford, Rio Oso | Calif. |
| Geo. E. Smith & Son, Rt. 4, Box 59, Yuba City | Calif. |
| Don J. Strachan, Rt. 2, Yuba City | Calif. |
| Cliff Thomas, Cottonwood | Calif. |
| Eugene Walker, R. 2, Box 207, Live Oak, | Calif. |
| M. C. West, Rt. 1, Box 279A, Winters | Calif. |
| J. E. Wing & Sons, Box 235, Knights Landing | Calif. |

The MASTER



For fast uncapping use a MASTER Electric Uncapping Knife. Built for long, dependable service.

Your dealer stocks them.
Price, \$14.25

HUTCHISON MFG. CO.
2904 Colorado Avenue
Santa Monica, Calif.

CROPS and MARKETS

by M. G. Dadant

Crop So Far

The New England states have been too dry for a bountiful crop of honey so the best they can expect is less than a year ago and possibly much less.

Beginning with New York and extending west into the Plains states the crop has been extremely good. Clovers started early, then were hesitant on account of cool weather, and then began again. Apparently the crop throughout this whole area is considerably in excess of 1954. Of course, in New York and some of the other northern areas, colony losses were extremely heavy so the volume of honey produced will suffer as a consequence.

Beginning in Virginia and extending southward through the Carolinas, Georgia and Florida, crop conditions have been under par and this is particularly true in Georgia and northern Florida, where both gallberry and palmetto have been almost a complete failure. In the Florida area, orange was possibly not as good as last year but still a very fair crop. Extending westward through Georgia, Alabama and Mississippi, crop conditions are not satisfactory. The tupelo country has also suffered a shortage, evidently owing to the early freeze.

However, Arkansas is above last year and Louisiana perhaps the equal. Late indications are that the Texas crop has improved considerably and will rank quite a bit above a year ago.

In the intermountain country, Montana prospects were unusually good but much cool weather hindered the crop and at this date, July 20, the crop is still in the making. Idaho is perhaps under last year as are Nevada and Utah, with Wyoming perhaps on a par. Eastern and western slopes of Colorado apparently are better than a year ago with the southern sections not much over last year, which was extremely short. New Mexico and Arizona are not too promising.

The northwestern states of Washington and Oregon have had dry conditions but perhaps normal crops so far have been gathered.

In California as in Florida the orange crop was short, dry weather

interfered with the mountain flora and it remains to be seen what the alfalfa will do. All in all, California will not have what we might say is a "bumper crop" and may do well to have as much as last year.

In Canada, the eastern provinces apparently are about equal to last year which was not a heavy crop. Prospects in the prairie provinces seem better than a year ago and in British Columbia about average up to this date.

Crop Prospects

If personal observations and letters coming in are any criterion, prospects ahead after July 20 are extremely good. On a trip to Michigan, the writer found that although much sweet clover had gone by and dried, there was still a bountiful amount in bloom and the same applied to the white Dutch clover. In fact, we get many reports that bees are still gathering heavily and all supers are either on the hives or filled and being emptied to be replaced. So the prospects with the rains that have fallen regularly throughout the early summer seem to be above usual. Clean fields, however, may reduce the amount of fall bloom. Moisture should help with the aster and such heartsease as may be growing.

There seem to be slightly better prospects in Georgia and Florida from late flows which at least will put the colonies in good shape and may yield more surplus for the late flows than a year ago. However, the total is bound to be short.

Texas and Oklahoma report heavy rains for cotton and conditions look extremely rosy for a finish considerably in excess of the 1954 season.

We have already covered central western areas where crop is already heavy and prospects extremely good.

In reporting on western conditions we must always remember that the bulk of the crop is produced in the irrigated sections and these do not vary too greatly from one year to another unless extremely hot or ex-

tremely cold and cloudy weather interferes. So prospects from now on in these western sections should be about as a year ago.

Honey Prices

Not much honey has yet been marketed of the new crop and so we cannot give a good picture. However, in the extreme southern and western areas the orange crop has moved at excellent prices varying from 13½c to 15c per pound f.o.b. shipper's point, with practically all the orange crop and other early crop honey disposed of owing to the extremely bare market.

We hear of one carload of new white honey in a central area moving at 14c f.o.b. producer's point, and several lots at 13c and 13½c. They evidently have been picked up by packers or distributors who were short of honey and could not wait to see what the market would do.

On the whole, most of the buyers are satisfied to take up such honey as they need and await a settlement of the market. We hear from our reporters suggested prices for new crop ranging from as low as 12c to as high as 15c. One thing we must remember is that in these heavy producing central and western areas this year the honey is par excellence. In other words it comes nearer to being a white to water white honey than has been produced in these areas in years. This should command the big markets without difficulty.

In the Canadian areas, there still is not the volume of beekeepers and honey producers of a few years ago and it is questionable whether their present crop will satisfy their domestic needs for honey, so they may perhaps anticipate importations again from the United States. On the whole it is a bit too early to make any suggestions as to crop, but it looks like the market would start out at least as high as last year and probably 1c or more above support prices. However, amber honeys are in short supply and this grade is heavy in demand so we may look for a fairly stiff price on the amber grades.

Honey Under Loan

Not enough of the new crop has been harvested and offered for sale so that loans are being asked. As a matter of fact probably such honey as has been harvested up to this date found ready sale, at much above the loan price if the beekeeper was in a position to dispose of it.

Honey Wanted—Cars and less than car. Top Prices.
C. W. Aeppler Co., Oconomowoc, Wis.

SELL YOUR

pure

honey

Net Wt.

Three actual label designs from catalog.
(Colors black and red)

with **DADANT**
HONEY
LABELS



Write for your copy of our Label Catalog. You will find dozens of styles of labels in as many as nine sizes, designed to fit either glass or tin and to make your product shine on the grocer's shelf. Your name and address, plus weight desired, printed to order. Each label in the catalog is actual size and color and can be placed on your container so you can tell just what you want.

It's a HONEY of a HONEY JAR



OF THEM
ALL

Yes sir, these Queenline Jars really display your honey in a way to catch the customer's eye. A full line of these Jars is given in our FALL PRICE LIST. Also round jars; chunk honey jars; honey servers; tin cans; cartons; comb honey wrappers; honey handling equipment - - - extractors, tanks, melters, uncapping knives, steam generators, acid boards, fumigator. **QUANTITY DISCOUNTS ON ALL CONTAINERS.** Send for your copy of FALL PRICE LIST.

Dadant & Sons, Inc.

Hamilton, Ill. - - - - - Paris, Texas
Hahira, Georgia

Lewis Leadership Is Earned!

The great majority of improvements in modern beehives have come from Lewis engineers and Lewis experiments.

Through the years such things as one piece sections, V-shaped frame rests, bored dovetails and rot proofing are good examples of our contributions to the beekeeping industry.

In the more recent years I-V Covers, Nailless Top Bar Frames, Lev-L-Drain and Lewton Bottom Boards are more examples. That others in the supply industry follow our lead makes us happy. It's a compliment to be copied.

When you want equipment with today's newest ideas, buy Lewis Beeware. It's amazing what assembly time can be saved and costs cut.

G. B. Lewis Company

Watertown, Wisconsin

Available at Our Dealers

LEWIS-DADANT BRANCHES

Stephenson Ave. at 14th St.
Lynchburg, Virginia

Colonie & Montgomery Sts.
Albany 1, New York

1010 W. Austin Street
Paris, Texas

92 Riverside Street
Chillicothe, Ohio

Route 41, South
Hahira, Georgia